

small air forces observer

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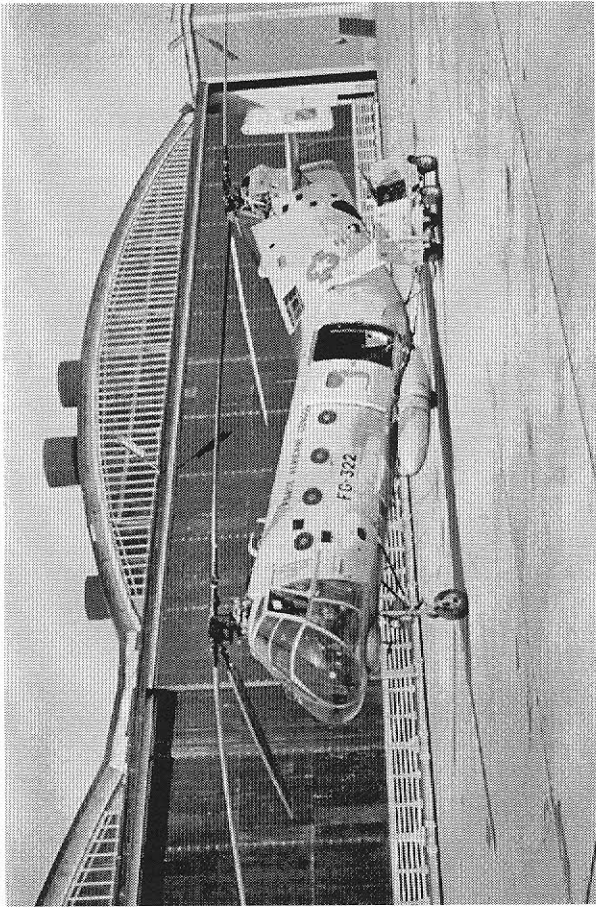
Royal Canadian Navy Sikorsky HO4S Horse
Commonwealth Brewster Buffalo Pilots
Vertol H-21 in the Congo

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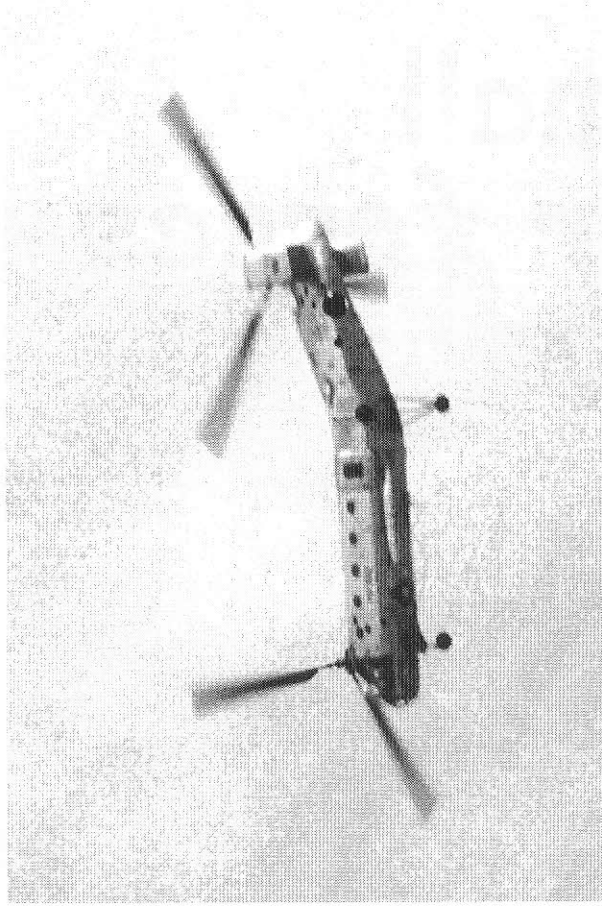
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SMALL AIR FORCES OBSERVER

The Journal of the Small Air Forces Clearing House

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SAFO EDITORIAL POLICY: The purpose of the Small Air Forces Clearinghouse (SAFCH) is to "promote interest in the history and modeling of the aircraft of the smaller countries". In support of this goal, the SAFCH encourages international cooperation in researching aviation history, both military and civil, from all periods of time, and for all the smaller countries. The results of this research are published in our quarterly journal, the Small Air Forces Observer (SAFO) Articles published

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SALES SERVICE: To free up more pages for articles, the Sales Service is being restricted to two pages in each issue. Since the list is three pages, this means that the entire list will not appear in each issue. However, the list should be completed in two issues. The complete list is available for free via e-mail at saf@redshift.com, or by snail mail for \$1.00.

Cover Photo: Two Royal Canadian Navy HO4S 'Horse' helicopters of HS 50, headed by '252/2', prepare to depart from HMCS Bonaventure on May 24, 1959. See article beginning on page 46. Photo: DND/HS-60914.

AUSTRALIA

AUSTRALIAN PLASTIC MODELLERS ASSOCIATION

(APMA, PO Box 51, Strathfield, NSW 2135; 4 issues airmail A\$40. International payment is best handled via Paypal at iansharyn@bigpond.com.au. Web Site: www.apma.org.

1-09 (28 pages) L'Edition Francaise: "Algeria 1954-62 Part 2" 7 pages including 8 photos and 8 side-view drawings [Piper L-18, Cessna L-19, Alouette II, and Sikorsky H-34 (2), & Sikorsky H-19 (3)]. "Modelling a Piasecki H-21 in Algeria" 4 pages including 2 side-view drawings. "Modelling the Dewoitine D.510" 4 pages including 4 photos of the completed models. "RAAF Mirages" 3 pages with 5 color photos. Non-aviation articles include "Renault NC-27" and "Panhard 178B".

2-09 (28 pages) "Sikorsky S-58s in the Congo" 10 pages including 13 photos and 4 side-view drawings. [Ed: Essentially the same article that appeared in SAFO.] "Orange Roughly Iroquois" 5 pages on RNZAF Bell UH-1H in overall red including 7 color photos and a side-view drawing. Non-aviation articles include "Danube River Monitors Part I".

AUSTRIA

ÖFH NACHRICHTEN (Oesterreichische Flugzug Historiker, Pfenninggeldf 18/2/14, A-1160 Wien. Write for free sample.)

2/09 (40 pages). Nothing of small-air-forces interest.

BELGIUM

KIT (IPMS Belgium, c/o Michel Willot, dreve de Champagne 14, B-1190 Bruxelles; French & Flemish. International Postal Money Order for \$30 for 4 issues.

#154 2/2009 (52 pages) "De Havilland DH.89 Dominie" 5 pages on building the 1/72-scale Heller kit in Belgian markings including 12 photos of the model. "Mini Walk Around: DH.89 Dragon Rapide" 5 pages with 23 photos, "Hurricane Mk.IIc" 12 pages on building the 1/48-scale Hasegawa kit in Belgian markings including 23 photos of the model and a color 4-view drawing. Non-aviation articles include "International Space Station 1/125", "Tank Mk.V

Hermaphrodite 1/35", and "German Navy U-Boot Type 206A 1/144".

FRANCE

AVIONS: Toute l'Aeronautique et son Histoire (Lela Presse, 29 rue Paul Bert, 62230 Outreau, France. 50 euro for 6 issues).

#170 Juillet/Aout 2009 (72 pages)

"Blériot Traverse la Manche" 13 pages commemorating the 100th anniversary of Blériot's crossing the English Channel including 21 photos of Blériot and his aircraft including those he built before the famous XI, a map of the crossing, and a table of all the flights he made from 5 April 1907 (a distance of 6 m on #5) to 25 July 1909 (27 minutes on #11). "Potez 36" 7 pages on pre-war light plane including 9 photos, 4 color profile drawings, and a 1/72-scale 3-view drawing. "Le Polikarpov I-153: sur le Front de l'Est" 7 pages including 10 photos and 4 color profile drawings. "En reconnaissance lointaine Téhéran" 10 pages including 32 photos of German recon aircraft. "Disparition de Mermoz" 4 pages including 4 photos of Latécoère 300. "L'aviation militaire Lituanne 1918-1940 (2^e partie)" 12 pages including 32 photos [Dobi-I, II, & III; Anbo I, II, III, V, IV, VI, 41, 41, & VIII; Fokker D.VII; LVG C.VI; Sopwith 1½ Strutter; Ansaldo A-120; Fiat CR-20; and Letov S-20L and one color profile drawing, and 2 color 3-view drawings of LVG C.VI. "Mai-Juin 1940: Ces mystérieux avions 'Italiens' dans le ciel de France (première partie)" 10 pages including 16 photos of Italian aircraft and a map of France showing the front lines and the lines of German advance. [Ed: This map is the best presentation of this campaign I've seen.]

#171 Septembre/Octobre 2009 (72 pages) "Les Boeing B-29 du 40th Bomb Group en Inde" 11 pages including 14 photos and 3 color profile drawings. "De Cambrai à Thiès" 10 pages including 23 photos and 4 color profile drawings [French MS 406 & H-75A in 1940 and two H-75A one Free French at Bangui AEF (French East Africa?) and one Vichy French at Thies AOF (French West Africa?)]. "Le Meeting du centenaire" 10 pages celebrating the 100th anniversary of the airfield at Reims and the 75th anniversary of the l'Armée de l'Air including 29 photos. "Polikarpov I-

153 sur la Chine" 3 pages including 4 photos and one color profile drawing. "Potez 26: Une révolution dans l'aviation de tourisme" 14 pages including 28 photos, one map of France (complete with sea monsters, and 4 color profile drawings. "TSF et aviation" 10 pages on WWI wireless including 17 photos [2 contemporary color photos (Voisin LA & Caudron G-4)]. "L'Aviation Militaire Lithanienne 1940" 9 pages including 21 photos (D.501L, Gladiator, DH-89 Dragon, Avro 626, Lockheed Vega, Bu 133, Klemm 35, Ansaldo A.120, Fiat CR.20, Anbo III, & Anbo IV), three color 3-view drawings (side, top, & bottom) Gladiator, D.501L, & a camouflaged Anbo 41), and one color profile drawings Anbo 41.

GERMANY

FLIEGER REVUE EXTRA (Verlag Fliegerrevue, Herrn Detlef Billig, Oranienendamm 48, D-13469 Berlin. 4 issues per year, \$66 surface. Payment by check drawn on German bank)

#24 Februar 2009 (116 pages) "MiG-21 in Schwarzafrika und Amerika" 22 pages including 71 color photos, 15 color drawings of nation insignia (Congo Republic, Burkina Faso, Mozambique, Ethiopia, Uganda, Namibia, Tanzania, Guinea-Bissau, Zambia, Zimbabwe, Angola, Guinea, Madagascar, Nigeria, & Cuba), and 11 color profile drawings [Angola, Ethiopia, Congo Republic, Cuba, Madagascar, Mozambique, Nigeria (2), Zimbabwe, Uganda, & Russia]. "Die deutschen Bordflieger – Teil 4 ab 1968" 28 pages on Germany Navy Helicopters including 92 color photos. "Deutsche Torpedobomber im Erstan Weltkrieg" 36 pages including 78 photos (Gotha WD 7, Brandenburg GW, FF 41, FF 35, FF 33, WD 11, BFW.FB, Albatros W 4, WD 14, etc.), and a map of action in the Gulf of Riga. "Die Airlines der CIA – Civil Air Transport: Teil 1" 26 pages including 48 photos, 6 color profile drawings [C-46 (5) & Stinson L-5), and a map of China showing location of CAT bases.

ITALY

JP4 Menslie di Aeronautica e Spazio. Via XX Settembre, 60-50129 Firenze, Italy. Email: jp4@dueservice.com. Website: www.ediservice.it.

Giugno 2009 (100 pages) Color photos: Iraqi Airbus A300 & Portugal Epsilon TB 30. "Veterani & Musei" Dutch Buffalo. "Sukhoi Su-35" 6 pages including 9 photos. "Iran: Il giorno delle Forze Amate" 2 pages with 14 photos (F-5B, F-4D/E, Mig-21UB, etc.). "Gli AW139 irlandesi" 4 pages including 8 photos. "Incidenti: Militari" one page including 3 photos (Argentina Boeing 757, Czech Challenger, & India Su-30MKI).

Luglio 2009 (100 pages) Color photo: Portugal Casa C-212. "TLP 2009-3 a Florennes" 4 pages with 14 photos (Dutch F-16AM, Italian F-16ADF, Belgian F-16AM, Polish F-16, & Spanish Eurofighter). "Il Super Lynx in Sudafrica" 2 pages including 5 photos. "Incidenti: Militari" 2 pages including 7 photos (Colombia MD530, Kenya Mi-8, South Africa A109, Indonesia C-130H, Pakistan FT-7, & Greece F-16C).

Agosto 2009 (100 pages) Color photos: Saudi Arabia Typhoon, RAAF Super Hornet, Colombia Kfir, Egypt VH-3A Sea King, & Macedonia Mi-24V. "Incidenti: Militari" one page including 5 photos (India An-32, Bangladesh FT-6, Jamaica Bell 412, Pakistan Mi-17, & Belgium Piper L-21B Super Cub).

Settembre 2009 (100 pages) "Loyal Arrow 2009" 8 pages on 10-nation exercise held in Sweden with 18 photos (Portuguese F-16, Finnish F-18, German Tornado, Italian Tornado, Swedish Saab 105, Turkish F-16, and Polish F-16 & W-3). "Aeronautica Iraniana in Mostra" one page with 7 photos of IRIAF aircraft (F-4, F-5, & indigenous Saeqheh). "Gli elicotteri dell'Armee de l'Air" 6 pages on French army helicopters including 13 photos (EC 725 Caracal, Puma, AS 555 Fenner, & Sikorsky H-3). "Uno SPAD: anglo-americano-italo-francese" 4 pages on history and restoration of a much-traveled Spad 13 including 11 photos. "Incidenti: Militari" one page including 6 photos (Jordanian Slingby Firefly, Serbian MiG-29, Canadian CH-146, Taiwanese F-5F, Chinese JH-7, & Colombian Kfir).

POLAND

LOTNICTWO (Krystof Zalewski, ul Grochowska 306/310, pok. 206, 03-840 Warszawa. E-mail: kz@magnum-x.pl.)

5/2009 (98 pages) Color photos: Iraqi Mi-17, Jordanian EC 635, & Turkish S-70. "Lotnictwa Wojsk Ladowych Pakistanu" 10 pages on Pakistan's Army helicopters including 20 gorgeous photos. "MiG-31MB" 3 pages with 6 photos. "Siły Powietrzne Ukrainy" 13 pages including 30 photos (MiG-29, L-39Z, Su-27, Su-15, Su-17, Tu-22, Tu-160, Tu-95, Su-24, Su-25, An-26, An-30, Il-76, & Tu-134). "Supermarine Walrus: part 2" 12 pages including 15 photos, a 6-view scale drawing, and 10 color profile drawings [RAF (7), Irish, Argentine, & French]. "Samoloty Lim-5 I Lim-6: part 1" 12 pages including 24 photos. "Wodnosamoloty FBA S-4" one pages including 2 photos. [Ed: If this magazine were in English, it would be a world beater. The subject matter selection is outstanding and the coverage is uniquely through, the color photos are large and well reproduced, multi-view scale drawings are excellent, and the color profile drawings are beautiful.]

Numer Specjalny 9 (98 pages) Entire issue is devoted to projects conceived near the end of WWII. I'm going to paraphrase the titles. "German Jets" 8 pages including 8 photos and color drawings. "Little Boy and Fat Man" 14 pages on the atomic bombs including 23 photos and drawings. "Japanese Projects" 15 pages including 22 photos and drawings, a 5-view drawing (Kikka), three 3-view drawings (Ki-201, J8M1, & Ki-202), and 4 side-view drawings of projects. "Frank Whittle" 10 pages including 21 photos and drawings. "Me 262 Bomber" 12 pages including 20 photos and 5 color profile drawings. "Soviet Projects" 17 pages including 25 photos, two 5-view drawings (Jak-17 & MiG-9), and 5 color profile drawings (Jak-15, Jak-17, La-150, MiG-9, & Su-9). [Ed: Vacuform kits of many of the more unusual one-off Soviet project are available from the SAFCH Sales Service.]. "He 162" 12 pages including 22 photos, a 5-view drawing, and 5 color profile drawings (one in Soviet markings). "Japanese Suicide Bombs" 9

pages including 14 photos, and five 3-view drawings [Okha 22, Okha 33, Okha 43, & Balka (2 versions)].

6/2009 (98 pages) Color photos: Polish Su-22M4 (2) & Su-22UM3K. "Lotnictwo Morskie Meksyku" 6 pages on the aircraft of the Mexican Navy including 12 photos (Casa 212, An-32, Turbo-commander, Learjet 25, E2C Hawkeye, Mi-8, Bo-105, Mi-17, Mi-2, AS-555 Dauphin, & Lancair IV). "Indyjski 'Miecz Sprawiedliwosci'" 5 pages on Indian AF Jaguars including 10 photos and a pull-out poster. "Lockheed AH-56 Cheyenne" 8 pages including 17 photos and a scale 5-view drawing. "Samoloty Lim-5 I Lim-6" 10 pages including 20 photos including 5 color profile drawings (3 overall metal & 2 camouflaged). "Morskie skrzydła Austro-Węgier 1914-19" 10 pages Austro-Hungary seaplanes including 21 photos and 4 color profile drawings [Micki Nr.1, Lohner Te (L71), UFAG TI (L1330, & Lohner TL (R2)].

7/2009 (98 pages) "Nowe śmigłowce bojowe Sił Powietrznych Federacji Rosyjskiej" 8 pages on new Russian military helicopters including 25 photos. "Greckie F-16 Block 52+" 8 pages including 18 photos, plus a 2-page foldout poster. "Samoloty myśliwsko-bojowe: MiG-15 I MiG-17" 6 pages including 20 photos (all Soviet except one East German and one Polish). "Pierwsze prezentacje polskich konstrukcji lotniczych w Ameryce i na Bliskim Wschodzie (1931-1936)" 6 pages including 6 photos of the PZL P.6 participation in the 1932 National Air Races in Cleveland, USA. "Henschel Hs 129 w Afryce" 8 pages including 18 photos and 2 color profile drawings. "Tadeusz Ruman (1919-2009)" 4 pages including 8 photos.

USA

IPMS/USA JOURNAL (IPMS/USA, PO Box 2475, North Canton, OH 44720-0475 USA. Six issues per year: In USA: \$25 for adults (18 and older) and \$12 for juniors (17 and younger); Canada & Mexico \$30; all other \$32.)

July-August 2009; Volume 21, Number 04. (72 pages) Nothing of small-air-force interest.

Vertol H-21 in the Congo

Leif Hellström

Histories of the Vertol "Flying Banana" seldom if ever recognize that a number of these distinctive helicopters were operated in Congolese markings in the mid 1960s. An H-21B had been used in the Congo in the summer of 1960 already, taking part in an operation to evacuate Europeans from isolated locations during the disturbances following independence, but this helicopter retained its USAF markings and left the country after a few weeks.

When a widespread rebellion broke out in the former Belgian Congo in the spring of 1964, the country's armed forces were woefully inadequate to deal with it. This includes the Congolese Air Force (Force Aérienne Congolaise, or FAC), which was short of everything. The shortage was particularly critical when it came to helicopters, the FAC fleet consisting of one permanently grounded Sikorsky S-55 and one Alouette II of very dubious airworthiness, plus a few irreparable hulks on nominal charge spread around the country.

Both Belgium and the United States were supporting the Congolese Government, even if they were reluctant to provide military support too openly. In early April 1964, US diplomats proposed giving four to six US helicopters to the Congo on loan, for troop transport purposes, and suggested asking Belgium to provide the necessary crews. By early May the USA had decided to supply six H-21 helicopters and Belgium had agreed to provide the crews. To operate the H-21s as well as some C-47s also delivered by the USA, Belgium set up a unit known as FATAC (Force Aérienne Tactique; sometimes referred to as Force Aérienne Tactique au Congo – Tactical Air Force of the Congo). This was entirely staffed with regular Belgian military personnel, initially numbering 125. Included were four helicopter pilots and two helicopter flight engineers. FATAC was officially created on 1 June 1964 with the object of providing an air transport capability for the Congolese Army, the ANC. The unit was independent from the rest of the FAC and reported directly to ANC Headquarters in Leopoldville.

The H-21s sent to the Congo were all ex USAF CH-21B models, i.e. primarily all-purpose cargo

helicopters. Three of them came directly from the 1370th Photo Mapping Wing at Turner AFB, Georgia, while the other three had actually been struck off charge at Hickam on Hawaii in early 1964 before being salvaged from the scrap corner and shipped to the Congo. All six were supplied under MAP and were officially considered to be on loan to the Congo. The CH-21s were airlifted dismantled in USAF transports to N'Djili airport in Leopoldville. There they were assembled by a team of US technicians. The first CH-21, number 322, was test flown on 25 June 1964 and by the following month all six had arrived in the Congo, even if not all were immediately put into service.

The six CH-21Bs were all similarly configured, even if there were some minor differences in aerial placement, etc. All except FG-673 had a winch mounted above the front door. All had an external auxiliary fuel tank permanently fitted: FG-322 and -378 on the left-hand side, and FG-673, -677, -697 and -869 on the right-hand side.

The large Vertol H-21 Work Horse may seem an odd choice for a helicopter intended for service in the African bush; the Congo was in fact the only third-world country ever to use the type. Perhaps the selection was influenced by the original discussions about troop transport helicopters. The Belgians, none of which had previous experience of the H-21, considered the type totally unsuitable for the Congo. "It was too heavy and too big for the altitude and temperature it was going to be flown in there," was the opinion of Edward Boutet, one of the pilots. Like the other Belgians, he had only flown single-rotor helicopters such as the Sikorsky S-58s and the crews were converted onto the Vertols in Leopoldville by two USAF instructors.

FATAC had its main base at the old Belgian airbase at Kamina, some considerable distance from the capital. Kamina had stood empty for some months after being abandoned by the last United Nations air units and was in poor repair after having been looted again and again by its consecutive users. The Belgians had to repair some of the houses to have somewhere to live, buying back stolen mattresses from

the ANC, and had to go on hunting trips to get something to eat.

Once conversion training was completed in late July, the first two H-21s, FG-322 and FG-378, were ferried to Kamina. The first operational mission was flown on 29 July, when one H-21 did a reconnaissance flight against a rebel force approaching Kamina. By early August 1964, four of the six H-21s had been assembled and test flown and were ready for service. Around the same time, Prime Minister Tshombe requested an additional 18 H-21s from the USA, for a total of 24. This requirement was considered quite excessive by the Americans and no action was taken to provide any more helicopters.

The situation in the Congo changed dramatically when the rebels captured Stanleyville, the second largest city in the country, on 5 August. Hundreds of whites were taken virtual hostage, including the personnel of the US consulate. The embassy in Leopoldville immediately put together a rag-tag force of marine guards and military aid instructors to rescue the American hostages. The plan was called Operation "Flagpole" and relied on the assault force being landed on the consulate lawn by H-21 to make the extraction. The force positioned forward to the town of Lisala on 7 August but in the end the operation was called off, as being too risky.

During the autumn of 1964, the H-21s were increasingly used to support ANC operations during the efforts to push back the rebels and re-take Stanleyville, which began in earnest in October. The helicopters were used for all the usual tasks, such as transporting personnel, re-supplying forward troops, liaison, reconnaissance and medical evacuation. They were also on stand-by for search and rescue duties for other FAC aircraft. In November 1964, an ANC relief column spearheaded by mercenaries made the final advance on Stanleyville from the south. Two H-21s, FG-697 and FG-869, were detailed in constant support and had direct radio contact with the ground troops. November became the peak month of H-21 operation in the Congo, with a total of 286 hours flown.

Stanleyville was finally re-captured on 24 November and became the main base for the continued operations against the rebels. H-21s were permanently based there but returning to Kamina or Leopoldville for maintenance. There were also detachments at other locations, including Bumba, Paulis and Punia.

The heat of the Congo did not only cause the air-cooled engines of the H-21s to overheat but also reduced performance. Flying was often done early in the day, before it got too hot. The helicopters often had to make rolling take-offs to get off the ground. For a heavy load, an open area as long as 300 meters might be required, while 100 meters would suffice for a light load.

All six H-21s survived until the end of 1964, although no more than four were ever operational at any one time. Also, by the end of year FATAAC still had only four H-21 crews of two pilots each.

The next few weeks saw a rapid attrition of the force, however. First to go was FG-869, which was written off after an accident at Paulis on 22 January 1965. A bearing on the forward rotor failed and this resulted in the rotor blades cutting into the fuselage and severely damaging it. There were no crew injuries. The next casualty was FG-322, which hit some trees while manouvering on the ground at Wamba, preparing for take-off on 16 February. Wamba was just an outpost and the hulk of the H-21 was blown up the following day by bazooka rounds, to prevent its capture. Then on 25 February, FG-677 crashed at Betima near the Sudanese border, during an operation to pick up a badly injured CIA officer who had crashed in a T-28.

The H-21 fleet was thus halved in short order. On the other hand, FG-673 - which during 1964 had been a permanent "hangar queen", cannibalized for spare parts - was finally put into service in early February 1965.

During the spring, the H-21s continued to be used as before, but to an ever decreasing extent, due not only to the losses but also to chronic technical problems, and the reduced pace of the ground operations. Due to the lack of spares, one or more of the H-21s would often be grounded, and for a period FG-378 was being used as a hangar queen for this reason. During the second half of March 1965, only ten hours were flown, by a single H-21. The operation of the H-21s remained a wholly Belgian affair and at no point was there any attempt to train Congolese crews; at this point there was still not a single qualified Congolese pilot in the FAC, of any description.

On occasion the H-21s were also used for more clandestine missions, such as inserting spies behind rebel lines. They were also used to fly arms to Sudanese rebels. Sudan was supporting the rebels in the Congo and therefore Congo supported the rebels in Sudan, in accordance with the old principle that "the enemy of my enemy is my friend". The arms were taken to the national park north of Faradje and dropped off near the border.

After a brief respite the attrition of the H-21s continued. On 25 April 1965, FG-697 crashed near Bunia in north-eastern Congo during an air test after an engine replacement. The helicopter may have been hit by ground fire. On touch-down, the H-21 was deliberately put on its side by its pilot, to stop the rotor from slicing up the fuselage. The three persons aboard were rescued from the bush by ground forces. On 30 May, FG-673 was sent to Aketi to pick up some wounded mercenaries. They were fired upon by the rebels when taking off and before reaching 100 meter altitude the H-21 completely lost power, crashed into a hill and rolled over on its side. Again, there were no casualties.

By this time the FAC helicopter fleet had shrunk to a single H-21. Finally, on 27 June 1965, FG-378 took off from Stanleyville to Buta to pick up some liberated hostages. The crew consisted of Belgian pilots Adjutants Robert Jacobs and Frans Allays and mechanic Captain Raymond Bordon. On the way they ran into bad weather and turned back but disappeared on the way. The helicopter crashed within 30 minutes flying time from Stanleyville but despite this the H-21 was not found, despite a reward of 100,000 Francs (around 650 US Dollars) being posted for information leading to the recovery of the wreck. The crash site was finally located near the Aruwimi river in 2004 and a Belgian recovery team is expected to go there in October 2009.

The service of the H-21 in the Congo was thus restricted to almost exactly one year. The CIA had seen the writing on the wall and had decided earlier in 1965 that it would need to provide its own helicopters to support its operations in the Congo. Three new Bell 47Gs had been purchased and one of these took part in the search for FG-378, thereby providing

continuity in helicopter operations in the Congo. FATAAC continued to exist until 1967, but only flying transport aircraft.

Painting and markings

The paint schemes of the FAC H-21s fall into three groups. Most common was the mainly natural metal scheme, seen on FG-322, FG-378 and FG-697. On the latter there were initially remnants of the USAF dayglo red panels on the fuselage but these eventually disappeared. A second paint scheme was the white and bluish light grey scheme, with dark blue trim, used on FG-677 and FG-869. These were undoubtedly the smartest looking of the Congolese H-21s.

The third, and possibly most interesting scheme was that of FG-673, the hangar queen pressed into service in early 1965. This H-21 was basically painted light grey, but retained large panels in dayglo red and white, and had one of the dayglo fuselage bands overpainted in olive green. The large US national insignia were roughly overpainted: on the right-hand side in ochra paint and on the left-hand side in dark grey!

All H-21s carried 1964 style Congolese national insignia on the fuselage sides and, except for FG-673, under the fuselage. Congolese flags were painted on the fins. All except FG-673 had the text FORCE AERIENNE CONGOLAISE painted in black above the fuselage windows: smaller on the natural metal helicopters and larger on the white and grey ones. The serials consisted of the last three of the USAF serials, prefixed by FG- (although FG-869 was initially serialised FT-869 for some reason) and was applied in black to the fuselage sides and the fins. Most of the H-21s also carried their three-digit number on the front of the nose, but as this was a remnant of their respective US markings the size and style differed from helicopter to helicopter.

Special thanks to Pietro Sonck and Michel Huart for assistance with this article.

Leif Hellström (SAFCH #786), e-mail: leif@leifhellstrom.com

The Vertol H-21 in Congolese Service

Serial	Type	C/n	Previous ID	Served from	Served until	Remarks
FG-322	CH-21B	B.72	53-4322	25 Jun 64	16 Feb 65	Hit trees during take-off at Wamba, crew unhurt; wreck destroyed by ground troops.
FG-378	CH-21B	B.128	53-4378	Jul 64	27 Jun 65	Missing during rescue mission in Stanleyville-Buta area.
FG-673	CH-21B	B.36	52-8673	Jan 65	30 May 65	Delivered 1964 but used for spare parts until Jan 65. Crashed at Aketi-Titule after losing power on take-off.
FG-677	CH-21B	B.40	52-8677	Jul 64	25 Feb 65	Crashed at Betima during rescue mission.
FG-697	CH-21B	B.59	52-8697	Jul 64	25 Apr 65	Crashed near Bunia during air test.
FT-869/ FG-869	CH-21B	B.16	51-15869	c.Oct 64	22 Jan 65	Written off at Paulis after rotor struck fuselage.

Captions for photos on page 38 and 71-72

1. The former 52-8697 being transformed into FG-697, in Leopoldville in the summer of 1964. Much of the USAF paint scheme still remains, but apart from the red dayglo on top of the rear fuselage (the part removed in the photo), most of the markings were removed before entering FAC service. (Liévin d'Ydewalle via Michel Huart)
2. FG-322 was the first Congolese H-21 to be ready for service and is seen here after arrival at the Kamina base in the summer of 1964. It is typical of the FAC H-21s in natural metal finish. Note the serial number repeated vertically on the front. (Coinne via J-P Sonck)
3. The second H-21 of the initial pair into service was FG-378, which in most respects looked very similar to FG-322. Note the winch over the front door. This helicopter was the last H-21 to remain in FAC service, until disappearing on 27 June 1965. (Flemming Friberg)
4. One of the natural metal H-21s, probably FG-697, showing the position of the national insignia carried under the fuselage by all but one FAC H-21. (Joaquin Varela)
5. Two of the H-21s were finished in this paint scheme, consisting of white and bluish light grey, with a dark blue cheat line. The canopy framing was also dark blue.
6. FG-677 was the second of the white and grey H-21s, a paint scheme which in this case was definitely added in the Congo. This helicopter lacked the white canopy top. Note the small serial repeated on the front. (Jan Hekker)
7. The last H-21 to enter FAC service, FG-673, had previously been a spare parts source. Little effort was taken to provide a proper paint job: note the remains of the USAF markings and the overpainted US insignia. It is seen here at Bafwasende, on 13 February 1965. (Schieldermans via J-P Sonck)
8. The opposite side of FG-673, out in the Congolese bush. The fuselage top and rear band were red dayglo, while the front band was olive green. On the green band on both sides, the window surrounds remained orange. The US insignia is very poorly covered, and in a different colour than on the other side. (Jacques Noël; composite photo)

Royal Canadian Navy HO4S Horse

Patrick Martin

Development

The Sikorsky designed S-55 model, was an all-metal, pod and boom construction helicopter. The design placed the tilted engine forward of the cabin leaning back with the upward-slanted transmission shaft running to the transmission behind the pilots. The S-55 had a box shaped cabin that could carry ten passengers or cargo and supported by a four point wheeled undercarriage. The design proved versatile with the large sliding door on the starboard side giving access to the cabin. Two large clamshell nose doors gave access to the 600-hp R-1340-57 Wasp radial engine. The tail rotor was extended rearwards by a long tail boom, which on occasion proved troublesome with rotor strikes, including with the RCN. This was later resolved by angling the tail boom downwards by three degrees.

The first YH-19 flew on November 10, 1949, at Bridgeport, Connecticut. Following flight tests with the five YH-19, a small inverted 'V' ventral fin was added at the end of the tail boom. The USAF initially started by ordered 51 examples of the H-19A in 1951, adding the more powerful H-19B at the end of 1951. With the onset of the Korean Conflict further orders followed. The US Army ordered hundreds of H-19D (switching to the 700-hp Wright R-1300-3 Cyclone radial). Each model added increases in power and features. These giving the Army air mobility. Many of these helicopters were passed direct to allied nations under MDAP. The USN ordered the naval HO4S-1 followed by the HO4S-2 and HO4S-3. The USCG ordered the Wright R-1300-3B 800-BHP engine powered HO4S-3G. The USMC ordered the assault role HRS-1, HRS-2 and HRSD-3.

The S-55/UH-19 measured 42 feet three inches (12.88 m) in length, a rotor diameter of 53 feet (16.15 m) and a height of 13 feet four inches (4.06 m). Empty weight was 5,700 lb (2,585 kg) and the maximum weight was 7,750 lb (3,525 kg). A maximum speed of 112 mph (180 kph) was achievable, though cruise was 91 mph (146 kph). The service ceiling was noted as 5,800 ft (1,767 m). Range was 295 miles (475 km).

Production

With the need for mobility during the Korean War, orders kept the demand high for the S-55 design. The S-55 stayed in production between April 16, 1950 and May 2, 1961. Sikorsky built 1,281 examples consisting of; 5 YH-19, 51 H-19A, 264 H-19B, 72 H-19C, 331 H-19D, 61 HRS-1, 101 HRS-2, 96 HRS-3, 10 HO4S-1, 7 HO4S-2, 79 HO4S-3, 23 HO4S-3G, plus 181 S-55 titled helicopters.

Subtotals become very blurred with changing serials and users, many deliveries used both US serials and new user serials (and some both). Foreign military sales and civil contracts were interspersed within US contracts. Sikorsky built four S-55 helicopters as demonstration samples and a fifth was provided to Westland in the UK. At least twenty civilian users purchased new production S-55, including Ambank and Okanagan Helicopters in Canada.

License production was undertaken in the United Kingdom by Westland, building 364 examples of the Whirlwind, including turbo-shaft powered variants. In France the type was also assembled by SNCA du Sud-Est and used in combat operations in Algeria and Vietnam. It was known as the 'Joyeux Elephant' (Joyful Elephant). A total of 44 were also assembled in Japan. The RCAF ordered 14 aircraft (9597-9600 and 9619-9629) to assist in the construction of the Mid Canada Line and was later used in the utility/SAR roles between 1954 and 1966. Production for the five US armed services and export was concurrent. The construction numbers of S-55 helicopters, as used by Sikorsky was a range of numbers starting with the prototype YH-19 49-2012 as 55001. The '55' represented the Sikorsky basic design model. With production reaching 1,281 examples, the construction numbers reached 551281 with the last example for Chile.

Service

The US Army took the first examples of the H-19 Chickasaw to Korea for service tests in March 1951. On one mission the helicopter helped in the

recovery of MiG-15 parts from behind enemy lines. The H-19 suffered from a relatively slow forward speed and excessive vibration and buffeting when operating at low altitudes, thus removing it from longer tactical missions. The USMC used the HRS in Korea starting in August 1951, in the re-supply role including slinging loads. The HRS led the way on what would become 'assault carriers'. In 1956, USS *Thetis Bay* CVE-90, was re-designated to CVHA-90 (assault helicopter aircraft carrier) to operate the HRS. The USN used the HO4S in the plane guard role but also saw the potential it had in the hunting and killing of submarines. With the arrival of the more powerful HO4S-3, both the detection gear and torpedo could be carried aloft. As with the RCN, the USN upgraded many HO4S-2 to HO4S-3 configuration with more powerful engines. In naval use the type was called the 'Horse'. The USCG continued to use the HO4S/HUS-1Gs until replaced by the HH-52 in 1966.

The 181 produced without US serials were either for commercial users or military exports to: Argentina (4), Brazil (1), Chile (8), Denmark (7), Dominican Republic (2), France (12), India (5), Israel (2), Japan (37), Thailand (9) and Venezuela (4). In addition to these S-55 totals, some of the above nations also received helicopters from MDAP with US designations and serials (sometimes) already allocated. Specific military models were also sold to: France H-19D (45), HRS-3 (3), Spain; HRS-3 (9), Thailand H-19D (3), plus the RCAF (14) and the RCN (13).

In addition to all branches of the US military and the nations listed above receiving new-build Sikorsky helicopter, the following nations used either us the Sikorsky S-55 or Westland Whirlwind; Austria, Ghana, Greece, Italy, Jordan, Korea, Kuwait, Laos, Norway, Pakistan, Paraguay, Philippines, Portugal, Saudi Arabia, South Africa, Taiwan, Vietnam and Yugoslavia. In the USA, there was also the 'aggressor' role played by the S-55 when altered to look like Mi-24 Hind helicopters and a remote control expendable variant for use with missile tests. The S-55 through all military designations, including those built overseas, continued to serve in dwindling numbers in commercial helicopter circles, including some indigenous new engine programs giving far different profiles.

RCN Service

Three HO4S-2 helicopters were ordered in December 1951 for the RCN. The first arrived on April 29, 1952 (made a landing aboard HMCS *Magnificent* within the week), followed by the two remaining examples in December 1952. No.1 Helicopter Flight was the initial user of the HO4S-2, until the unit evolved into squadron status as VH 21 status on May 1, 1953, and further re-designated to HU 21 in April 1955. Operating mainly from shore, VH 21, and later VX 10, sent detached aircraft aboard HMCS *Magnificent*. VH 21 and later HU 21 were tasked with plane guard duties, without any dunking sonar or other ASW equipment fitted, thus freeing up a surface escort vessel, starting on May 6, 1952 and continuing past unification.

Ten examples of the HO4S-3 were ordered for the RCN and delivered between May and August 1955, allowing the formation of HS 50 on July 4, 1955. Between March 1955 and September 1956, two surviving HO4S-2 helicopters were upgraded to HO4S-3 standards with the Wright R-1300-3 engine at Pratt & Whitney Canada Inc., Montreal. In addition to shipboard roles, the HO4S was used to support firefighting, search and rescue, DEW line construction, ship-to-ship and ship-to-shore transport and mine clearance. The HO4S became a real work 'Horse' of the RCN.

For the anti-submarine role the HO4S assigned to HS 50 used the AN/AQS-4C sonar set, which featured the dunked combined transmitter receiver dome. This was lowered into the sea by the HO4S, then a burst of sound was transmitted and the system operator within the HO4S hovering above received any returning echo sounds. The sonar operator classified sounds and fixed the bearing and range to the target of interest. If contacts were not found the helicopter would raise the gear and move on to a new location. The helicopter would have a speed advantage over any submerged contact and unlike surface vessels, be immune to submarine attack. The mobile flexibility of the detection gear equipped helicopter increased the radius that submarines could be detected, without warning, well out of range of any ships. The lack of night and adverse weather operations would hinder the dunking/detection operations with the HO4S. It was not until 1958, when flying from HMCS *Magnificent*, that HS 50 HO4S were equipped with

a torpedo-launching installation on the port side of the fuselage, no longer requiring a vessel to approach the submarine for a kill.

The HO4S ability to land on smaller ships was tested in October 1956, aboard the modified HMCS Buckingham and later other vessels (see Helicopter Deck section). HS 50 would generally deploy six HO4S-3 aboard HMCS Magnificent and later HMCS Bonaventure. The primary role for HS 50 was ASW, armed with dunking sonar, depth charges and torpedoes (starting in 1958). HU 21 would also provide a single HO4S for plane guard duties. In the anti-submarine role the HO4S gave way to the much larger Sea King starting in mid-1963.

Ashore HU 21 continued to use the HO4S fleet in the training and utility roles. At least three (55877, 55878 and 55891) of the piston-engined HO4S helicopters remained in service post-unification for service aboard HMCS Bonaventure in the plane guard role until the carrier retired in December of the following year. RCN finish and markings were maintained till the end.

RCN Finish and Markings

NAVY+3 Era

The HO4S entered and remained in service in the Dark Grey/Light Grey finish. The fuselage markings string read left to right on fuselage sides, 'NAVY', 22-inch Type 1 roundel and the three-digit number in symmetrical configuration. To fit on the side door, a 22-inch diameter roundel was deemed required for the HO4S. For what looks like a supply reason, the RCN leaf would not work, thus a ten and ¼-inch RCAF Silver Maple Leaf was inserted into the 22-inch Type 1 roundel. This Type 1(SML) roundel remained in use before the switch to NAVY+L-3 Era markings. Fuselage letters and numbers were in 16-inch format. A third roundel was centred on the nose (with 1 HF/VH 21/HU 21) and a fourth centred under the fuselage facing forward. Rather than a title block, the serial was noted in a very small font, applied centred on the large ventral fin below the tail boom. The HO4S featured the full 'ROYAL CANADIAN NAVY' symmetrical titles on the tail boom in 10-inch White and were maintained until the end of service. After initial application the forward angle was increased to parallel the tail boom strake.

No.1 Helicopter Flight was assigned numbers starting with '961' on the first HO4S-2. This continued when the unit re-designated to VH 21, adding '962' and '963'. It was around April 1955, when the unit further re-designated to HU 21 and on June 1, numbers were changed to the 220-range and extended to '228' as deliveries continued. When HS 50 formed in July 1953, it adopted numbers in the 250-range. Though not noted in any documents, HU 21 used the 220-range, while HS 50 used the 250-range numbers. VX 10 also extensively used the HO4S, without unit numbers applied.

UN Markings

HU21 sent HO4S 55877 aboard HMCS Magnificent (along with four RCAF Otter aircraft) during transport of a major Canadian Army peacekeeping component to the Middle East in early 1957. The fuselage markings string of 'UN', UN light Blue insignia within a White square and '228' was applied during the cruise. HO4S 55876 '227' was prepared for the UN HMCS Magnificent trip but 55877 '228' was substituted before departing on December 29, 1956. The full RCN title was also removed from the tail boom and the 'UNITED NATIONS' title was applied. The HO4S stayed with the carrier until she reached the UK, flying to HMCS Bonaventure on February 6, 1957, becoming the first aircraft aboard.

NAVY+L-3 Era

With the RCN adoption of the last-three digits of the serial as the large format aircraft number, the HO4S converted to the new practice along with other types. All other markings remained constant with the exception of the replacement of the 22-inch Type 1(SML) roundel, with the 22-inch Type 1(SL) roundel during the period. The new roundel, while correct in the outer dimension used a smaller than standard inner RCN Red leaf. Starting in 1965 the 20-inch new Canadian Flag was symmetrically applied on the fairing beneath the tail boom. When the Sea King replaced the HO4S with HS 50, the helicopter continued with HU 21 on HMCS Bonaventure in the plane guard role. The HO4S was the only type of RCN aircraft in service past unification in early 1968, that did not adopt CAF finish or markings, steadfastly holding on to finish and markings in use. (Details of the CAF post-

unification eras can be found in Canadian Military Aircraft, Aircraft Finish and Markings, 1968 - 2004).

Tactical Numbers

HS 50 added large tactical numbers on over-painted tape (six inches wide) in Black while aboard HMCS Magnificent during late 1956. The trial aircraft added a two-inch White outline. The White was soon replaced by Yellow then, the colours were reversed. Later Red Day-Glo outlined in Black tactical numbers were painted on all HS 50 assigned HO4S while ashore at Shearwater. These were 80-inch single-digit and symmetrically placed on the rear fuselage and on the nose, replacing the roundel. These faded to an orange appearance. These numbers readily identified HO4S to each other, allied aircraft and vessels operating in their proximity. The large single-digit tactical numbers continued in use with HS 50 in the NAVY+3 Era.

Individual Aircraft Histories

The RCN used the construction number as the serial, less the third digit, which was '0' for the first thousand helicopters and '1' for the last 281 examples.

55144 Taken on strength as HO4S-2 on April 29, 1952; assigned to No.1 Helicopter Flight, NAVY+3 Era number '961', displayed at 1952 CNE, VH 21, NAVY+3 Era number '221', HU 21; rolled over following engine failure, non-fatal crash on McNabs Island on April 27, 1955; continued in use as instructional airframe only; struck off strength June 25, 1956.

55305 Taken on strength as HO4S-2 on December 5, 1952; assigned to VH 21, NAVY+3 Era number '962', '222'; converted to HO4S-3 Pratt and Whitney Aircraft Canada Ltd., at Longueuil between March 1955 and December 1956; HS 50 NAVY+L-3 Era number '305/2'; HU 21 '305'; possible continued in use past unification with HS 50; to CFB Borden as instructional airframe 'A737' May 6, 1970; struck off strength and sold June 11, 1976. Used floats for short period in 1960 when numbered '222'.

55320 Taken on strength as HO4S-2 on December 19, 1952; assigned to VH 21 '963', NAVY+3 Era number '223'; converted to HO4S-3 by Pratt and Whitney Aircraft Canada Ltd., at Longueuil between, March 1955 to December 1956; HS-50

'254/4'; ditched at sea off Southern Carolina coast and crew rescued on August 2, 1961.

55867 Taken on strength as HO4S-3 on May 16, 1955; assigned to VH 21, NAVY+3 Era number '225' HU 21; HS 50 '251/1'; NAVY+L-3 '867/1'; HU 21 '867'; struck off strength on June 17, 1964.

55875 Taken on strength as HO4S-3 on June 10, 1955; assigned to VH 21, NAVY+3 Era number '226' HU 21, used for HMCS Buckingham trials; HS 50 '253/3'; NAVY+L-3 '875/3'; HU 21 '875'; noted in service until 1964; to CFB Borden as instructional airframe '738B' May 8, 1970; transferred to CFB Penhold Alb.; struck off strength May 16, 1978; returned to CFB Shearwater current in storage.

55876 Taken on strength as HO4S-3 on June 10, 1955; assigned to VH 21, NAVY+3 Era number '227'; HS 50 '252/2'; HS 50 NAVY+L-3 '867/6'; HU 21 '876'; continued on in use past unification; struck off strength November 15, 1968; reduced to scrap.

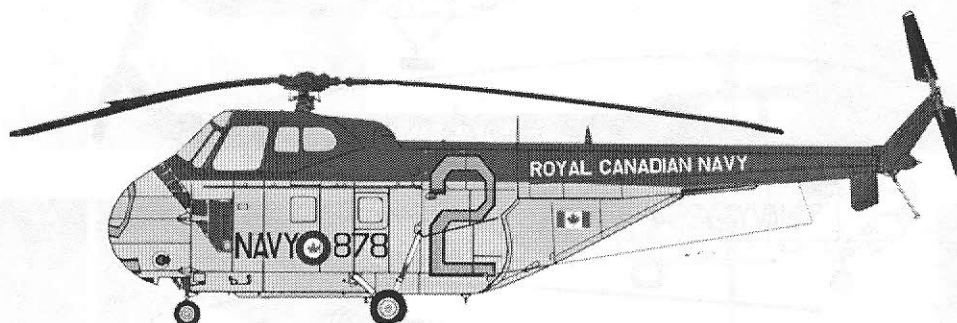
55877 Taken on strength as HO4S-3 on June 10, 1955; assigned to VH 21, NAVY+3 Era number '228'; to Egypt on HMCS Magnificent, in UN markings 'UN*228'; first aircraft aboard HMCS Bonaventure on February 6, 1957; HS 50 NAVY+L-3 '877/4' late 1961 - early 1963; HU 21 '877' early 1963; cut its own tail off on November 7, 1963, aboard HMCS Bonaventure, repaired and later flown ashore, continued on in use past unification, was the last aircraft to leave HMCS Bonaventure on December 12, 1969; struck off strength on April 16, 1970; flown to Rockcliffe for National Museum of Science and Technology (National Aviation Museum) arriving on May 22 (not May 21 as noted in many sources), 1970 (noted with 4,760.1 hours), current with Canada Aviation Museum, Rockcliffe. (HS 50 tactical number '4' added after arrival). Aircraft was picked for preservation because of involvement of several rescues. The most notable was from the freighter Kismet II on November 26, 1955. It took four trips to pull the 21 crew (and one dog) to safety in strong winds and rough seas from the base of 1,000-foot cliffs of Cape Saint Lawrence, the northernmost point of Cape Breton Island, Nova Scotia.

- 55878 Taken on strength as HO4S-3 on June 10, 1955; assigned to HS 50, NAVY+3 Era number '250/0'; NAVY+L-3 Era number '878/0'; HU 21 '878'; continued on in use past unification; struck off strength November 15, 1968, later scrapped.
- 55885 Taken on strength as HO4S-3 on August 31, 1955; assigned to VH 21, NAVY+3 Era number '221'; HS 50 '252/2'; NAVY+L-3 '885/7'; HU 21 '885'; possible withdrawn from use in August 15, 1965; to CFB Borden as instruction airframe '739B' on May 8, 1970; struck off strength August 15, 1985; donated to the Shearwater Aviation Museum, restored by New Brunswick Community College, Dieppe, returned on August 26, 1998 and current with Shearwater Aviation Museum.
- 55886 Taken on strength as HO4S-3 on August 25, 1955; assigned to HS 50, NAVY+3 Era number '255/5'; NAVY+L-3 Era number '886/5'; hit trees at Aspen Cove Nfld., while ferrying forest firefighters, crashed and burned, non-fatal, while flying with HS 50, on August 11, 1961.
- 55887 Taken on strength as HO4S-3 on July 26, 1955; assigned to HS 50, NAVY+3 Era number '253/3'; NAVY+L-3 Era number '887/1'; crashed and burned, non-fatal, on McNabs Island on August 26, 1958.
- 55891 Taken on strength as HO4S-3 on July 26, 1955; assigned to HS 50, NAVY+3 Era number '253/3'; NAVY+L-3 Era number '891/1'; to HU 21 '891'; continued in service past unification with HU 21 and aboard HMCS Bonaventure until March 1969; to CFB Borden as instructional airframe 'A740' on April 16, 1970; struck off strength on July 8, 1974; current with Shearwater Aviation Museum.
- 55892 Taken on strength as HO4S-3 on August 31, 1955; assigned to HS 50, NAVY+3 Era number '251/1'; non-fatal ditching due to engine failure off Key West and crew rescued on March 14, 1957.
- Patrick Martin (SAFCH #531), Canada. E-mail: <104655@telus.net>

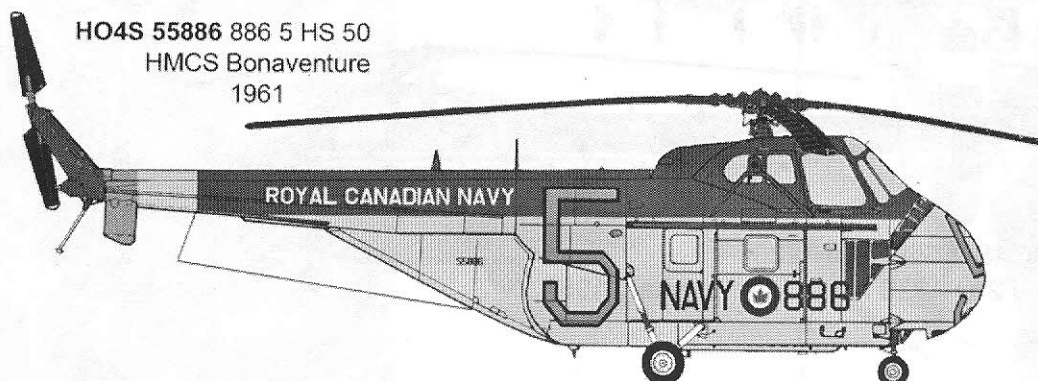
Captions for photos on pages 53-56

1. Three HS 50 HO4S helicopters ranged on the deck HMCS Bonaventure, while the HU 21 (no tactical number) HO4S plane guard comes aboard the aft deck on February 22, 1961. Photo: DND/BN-3901.
2. HS 50 HO4S 55320 '254/4' illustrates the ability of the type to carry detection gear and an anti-submarine torpedo. Photo: via Stu Soward.
3. The first HO4S delivered 55144 is parked at Dartmouth on April 28, 1952 adorned with the first code used '961'. Of note in the background are engineless former RCAF Lancaster bombers. This HO4S was destroyed in a McNabs Island crash on April 27, 1955. Photo: DND/PA-167868 DNS-6966 Norman B. Fitzmaurice.
4. HU 21 had a set of floats installed on one HO4S each year as part of 'an in-house training exercise'. The Edo float-equipped 55305 '222' lands at Bissett Lake, near Cole Harbour. Photo: DND/DNS-19392, via Paul E. Moore.
5. HO4S 55875 '226' demonstrates air evacuation at Camp Gagetown N.B. on July 25, 1957. Photo: DND/EC-8235.
6. HO4S 55877 'UN*228' flying off the aft flight deck of HMCS Magnificent en route to Egypt in very early 1957. This is the 'Shearwater Angel', now displayed in the Canadian Aviation Museum in Rockcliffe. Photo: DND/MAG-7562.
7. Taking off from El Ballah, HO4S 55877 'UN*228' on an unknown date, has had 'UNITED NATIONS' titles applied to the tail boom in White letters. Photo: DND/CT-466.
8. Four HS 50 HO4S on the deck of HMCS Bonaventure display the large format tactical nose number, while the HU 21 HO4S on plane guard duty flies overhead. The Red noseband painted on the latter was a painting trial to help identify the plane guard duty HO4S. Photo DND: HS-66400-98.
9. HO4S 55875 '875/3' equipped with load-speaker system at Dartmouth. This HO4S, while carrying the HS 50 tactical code '3', was assigned to HU 21 by the time this photo was taken. Photo: Jack McNulty, via Leo Pettipas.
10. HS 50 HO4S 55878 '878/0' on the deck of HMCS Bonaventure while visiting the Royal Navy at Portsmouth naval base during 1965. Photo: Jean-Louis Gaynecoetche collection.

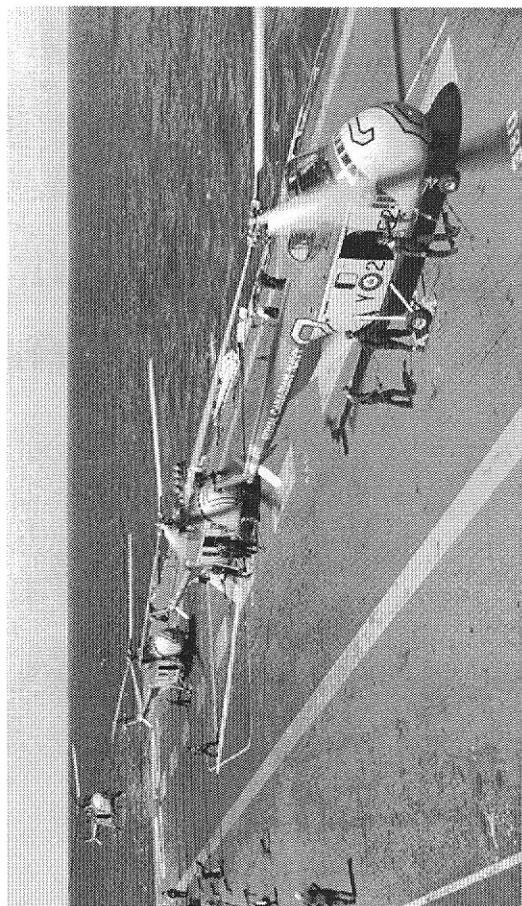
US military pre-1962 and post-1962 designations for S-55		Known RCN +3 Era numbers – all units		RCN +3 Era HS50 known tactical codes			RCN +L-3 Era HS50 known tactical codes		
Pre-1962	Post-1962	+3	serial	0	250	55878	1	867	55867
HO4S-1G/2G		961	55144	1	251	55867		305	55305
HO4S-3G	HH-19G	962	55305	1	251	55892	3	875	55875
HO4S-1	H-19A	963	55320	2	252	55876	4	877	55877
HO4S-3	UH-19F	965	55867	2	252	55885	5	886	55886
HRS-1	-	221	55144	3	253	55875	6	876	55876
HRS-2	-	221	55885	3	253	55891	7	885	55885
HRS-3		222	55305	3	253	55887	0	878	55878
H-19A	CH-19F	223	55320	4	254	55320			
	UH-19A/	225	55867	5	255	55886			
	HH-19A	226	55875						
H-19B	SH-19B	227	55876						
	some	228	55877						
H-19B	UH-19B								
H-19C	UH-19C								
H-19D	UH-19D								
HU-19F	-								
HU-19G	-								



HO4S-3 55878 878 2
HS 50 HMCS Bonaventure 1965



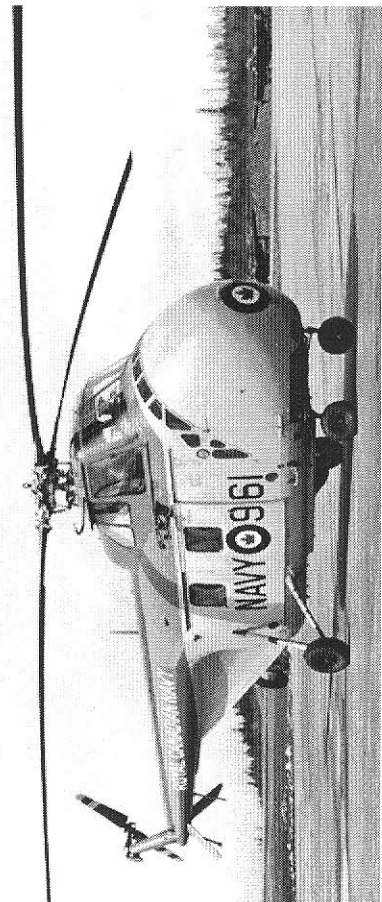
HO4S 55886 886 5 HS 50
HMCS Bonaventure
1961



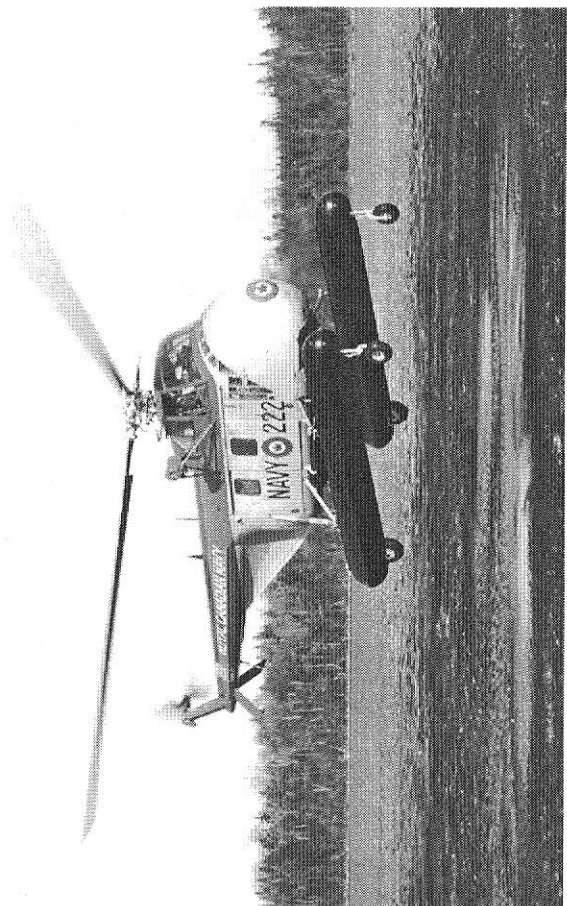
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2



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6



7



8



9



10

Notable Brewster Buffalo Pilots in Southeast Asia 1941-1942

Part I: Commonwealth Pilots

Santiago A. Flores

The following listing is based on new sources of information about the operations of the Brewster Buffalo in Southeast Asia from 1941 to 1942. It covers a number of notable pilots who flew in combat in the early part of the Pacific War. Three new books have been published. They are "Hurricanes over Singapore" by Brian Cull with Paul Sortehaug, "Buffaloes over Singapore" by the same author with Paul Sortehaug and Mark Haselden, and "Those Other Eagles: A Tribute to the British, Commonwealth and free European fighter pilots who claimed between two to four victories in aerial combat, 1939-1982" by Christopher Shores.

Based on these three books, the scores of the notable pilots like Fisken, Holder, Clare, Wipiti, and Vanderfield will be included because new information does not match the previous data. Also three more Buffalo pilots increased their score, one

later in Europe and two others while flying Hawker Hurricanes with No.605 Squadron in Singapore. Another pilot that has been added to this list was one who started to score at the start of the war in the Blenheim 1F twin-engine fighter-bomber and who would later transfer to fly the Brewster Buffalo with No.243 Squadron.

The reader will note some discrepancies among sources particularly in reference to the type of enemy aircraft destroyed, dates, and in claims shared with other pilots.

On the Dutch side, new information has come to light based on books published in France by Lela Presse and Aero Journal. However, this author believes that we do not yet have a complete picture of the claims submitted by the Dutch pilots

Sgt. Geoffrey Bryson Fisken, DFC, RNZAF

Born in Gisborne, New Zealand on February 17, 1905, he joined the RNZAF in March 1940. He claimed the destruction of 6 enemy aircraft while flying combat operations with No.243 and later No.453 RAAF Squadron. He was wounded in action February 1, 1942, was evacuated and later served in No.15 RNZAF Squadron flying Curtiss Kittyhawks. He would add 5 more claims to become the top scoring Commonwealth pilot against the Japanese. He was invalided out of the service on April 22, 1944, and returned to farming. He lives in retirement in his native New Zealand.

Reference: "Aces High"

12 Jan 42	1 Army 97 (Ki-27) (a)	243	W8147	WP-O
14 Jan 42	1 Navy 0 (A6M) (a)	243	W8147	WP-O
17 Jan 42	2 Navy 96 bombers (G3M)	243	W8147	WP-O
?	1 Navy 96 probable	243	W8147	WP-O
?	1 bomber damaged	243	W8147	WP-O
21 Jan 42	1 Navy 0 (A6M) (b)	243	W8147	WP-O
1 Feb 42	1 Navy 0 (A6M)	453	W8237	

Note: (a) and (b) claimed as probable, later confirmed.

Score: 6 destroyed, 1 probable, 1 damaged.

Reference: "Buffaloes over Singapore"

13 Dec 41	1 Ki-48 (probable?) (a)	243	W8147	WP-O
12 Jan 42	1 Ki-27	243	W8147	WP-O
14 Jan 42	1 A6M (b)	243	W8147	WP-O
17 Jan 42	2 Ki-48 shared	243	W8147	WP-O
17 Jan 42	1 Ki-48	243	W8147	WP-O
21 Jan 42	1 A6M	243	W8147	WP-O
1 Feb 42	1 A6M (probable)	453	W8237	

Note: (a) Fisken claims his first kill was a Japanese Army 97 bomber after diving on it from above, as quoted on p.63 of "Buffaloes over Singapore", but it appears that squadron records credit him with only a probable. (b) Later confirmed.

Score: 4 destroyed and 2 shared destroyed, 2 probable (or, if Fisken is correct, 5 destroyed and 2 shared destroyed, 1 probable).

F/Lt. Maurice Henry Holder, RAF.

He joined the RAF in January 1934 and was credited with the destruction of five enemy aircraft while with No.243 Squadron. His actual score is given as 2 destroyed with 3 shared destroyed and one shared damaged. He was evacuated and returned to the UK where he served with No.56 OTU. He was killed on a training flight on August 27, 1942, although another source puts the date as July 16, 1942.

Reference: "Aces High" Vol.2

12 Jan 42	2 Ki-27	243	W8178	WP-V
17 Jan 42	3 G3M shared	243	W8178	WP-V
17 Jan 42	2 G3M shared damaged	243	W8178	WP-V

Score: 2 destroyed and 3 shared destroyed, 2 shared damaged.

Reference: "Buffalos over Singapore"

12 Jan 42	2 Ki-27	243
17 Jan 42	2 Ki-48 shared	243
17 Jan 42	1 Ki-48	243
17 Jan 42	1 Ki-48 probable	243

Score: 3 destroyed and 2 shared destroyed, 1 probable.

Sgt. Alfred Wattle Benjamin Clare, RAAF

Born on September 1, 1910 in New South Wales, he has been mentioned in sources to have claimed 5 [sic] aerial victories while serving in No.453 RAAF Squadron. He would later serve in No.76 RAAF Squadron flying Kittyhawks and later commanded No.5 RAAF Squadron. He passed away in the 1980s. New information puts his score lower, as shown:

Reference: "Aces High"

17 Dec 41	1 fighter	453	
22 Dec 41	1 Me-109 (a)	453	
22 Dec 41	2 fighters (b)	453	
17 Jan 42	1 Navy 96 (c)	453	AN160?
17 Jan 42	1 Navy 0 (d)	453	AN160?

Note: (a) claim against a Ki-43.. (b) probable, later confirmed; probably Ki-43, 64th Sentai.. (c) probably against Ki-27..(d) believed to be Ki-43, 64th Sentai, Lt. R. Kato killed.

Score: 6 destroyed.

Reference: "Buffalos over Singapore"

22 Dec 41	1 Ki-51	453
22 Dec 41	1 Ki-51 probable	453
22 Dec 41	1 Ki-48 probable	453
17 Jan 42	1 Ki-27	21/453
17 Jan 42	1 A6M shared	21/453

Score: 2 destroyed and 1 shared destroyed, 2 probable.

F/Lt. Richard Douglas Vanderfield, RAAF

Born in Sydney in November 1914, he served in No.258 Squadron in the UK, and later flew in No.453 RAAF Squadron. He is reported to have scored 5 kills with 1 shared probable. Later he would serve in No.76 RAAF Squadron flying Kittyhawks and No.79 RAAF Squadron flying Supermarine Spitfires. He was the C.O. of No.110 Mobile Fighter Control Unit and finished the war with the rank of Squadron Leader. He received the DFC in 1945.

Reference: "Aces High"

13 Dec 41	2 bombers (a)	453	AN185	TD-V
22 Dec 41	1 fighter (b)	453		
15 Jan 42	1 bomber (c)	453		
17 Jan 42	1 fighter shared probable (d)	453		
19 Jan 42	1 fighter or dive bomber (e)	453		

Note: (a) believed to be Ki-48.

(b) believed to be a Ki-43..(c) claim against a G3M.

(d) claim against a Ki-27.

(e) claim against a Ki-51.

Score: 5 destroyed, 1 shared probable.

Reference: "Buffalos over Singapore"

13 Dec 41	2 Ki-48	453	AN185	TD-V
13 Dec 41	1 Ki-51	453	AN185	TD-V
22 Dec 41	1 Ki-27 probable	453	AN210	TD-J
22 Dec 41	1 Ki-43 probable	453	AN210	TD-J
15 Jan 42	1 Ki-48	21/453		TD-O
17 Jan 42	1 A6M shared	21/453	TD-O	
17 Jan 42	1 Ki-27 shared	21/453	TD-O	
19 Jan 42	1 Ki-51	21/453		

Score: 5 destroyed and 2 shared destroyed, 2 probable.

F/Lt. David John Colin Pinckney, RAF

He is reported to have 4 aerial victories over Burma with No.67 Squadron. While serving with No.603 Squadron in the UK, and flying the Spitfire Mk IIA, he had 3 destroyed (2 Me-109E and 1 Fiat CR.42), 3 probable and 1 damaged over German and Italian aircraft. He was wounded on August 29, 1940 and after recuperation he returned to No.603 Squadron until transferred to Asia. There he was assigned first to No.243 Squadron and later No.67 Squadron in Burma. Killed in action on January 23, 1942 while flying W8239 by the Ki-27s of the 50th Sentai.

Reference: "Aces High"

25 Dec 41	1 fighter damaged	67	W8144	RD-C
14 Jan 42	1 "Ju-52" on ground	67	W8239	

Reference: "Aces High" Vol.2

23 Dec 41	1 e/a (a)	67
23 Dec 41	1 e/a damaged	67
23 Jan 42	3 Ki-27 (a)	67

Note: (a) provisional score; new information by a former No.67 Squadron fitter. Flew Brewsters W8190 and W8191.

Revised score: 7 destroyed, 3 probable, 3 damaged, 1 destroyed on the ground.

Sgt. Bert Samuel Wipiti, RNZAF

This pilot was reported previously with a score of 3 and 1 shared victories while flying with No.243 and No.453 RAAF Squadrons. Later he served in the UK and was promoted to Warrant Officer serving in No.485 RNZAF Squadron flying Spitfires. He was reported killed in action on October 3, 1943, after claiming his second shared enemy aircraft with another pilot from the squadron:

16 Sep 43	1 Me-109 shared	485	JK769 Spitfire IX
3 Oct 43	1 Fw-190 shared	485	JK769 Spitfire IX

But new information about his claims in Asia shows a higher score. Known claims from "Bloody Shambles" Vol.1 and 2:

10 Jan 42	1 Ki-46 shared	243
21 Jan 42	1 Ki-43	243
22 Jan 42	1 Navy 96 bomber	243

Score: 2 destroyed and 3 shared destroyed.

Reference: "Buffaloes over Singapore"

10 Jan 42	1 Ki-46 shared	243		
21 Jan 42	1 A6M	243	W8147	WP-O
22 Jan 42	2 G3M	243		
26 Jan 42	1 Ki-27	243		

Score: 4 destroyed and 1 shared destroyed.

Reference: "The Other Eagles"

10 Jan 42	1 e/a shared (a)	243	
21 Jan 42	1 Zero (b)	243	W8147
22 Jan 42	1 Navy 96 bomber	243	
26 Jan 42	1 Army 97 fighter (c)	243	

Note: (a) Ki-46 Dinah, 81st Indep. Chutai. (b) Ki-43, 64th Sentai. (c) Ki-27.

Score: 3 destroyed and 1 shared destroyed.

F/Lt. Mowbray Garden, RAF

A new pilot added to this listing. He served in No.243 Squadron, was evacuated and later returned to the UK to serve in No.56 OTU, No.181 Squadron and finally No.12 (P) AFU. He would not add to his score of 4 and 1 shared kills. He was released from the service in October 1945.

Reference: "Buffaloes over Singapore"

12 Jan 42	2 Ki-27	243	W8139	WP-B
12 Jan 42	1 Ki-27 probable	243	W8139	WP-B
13 Jan 42	1 Ki-27	243	W8242	WP-K
15 Jan 42	1 A6M probable shared (a)	243	W8242	WP-K
26 Jan 42	1 Ki-27	243		

Note: (a) enemy aircraft crashed.

Score: 3 destroyed and 1 shared destroyed, 1 probable.

Reference: "The Other Eagles"

12 Jan 42	2 Ki-27	243	W8139	WP-B
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12 Jan 42	1 Ki-27 probable	243	W8139	WP-B
13 Jan 42	1 Navy 0 damaged shared (a)	243	W8139	WP-B
20 Jan 42	1 bomber damaged	243		
26 Jan 42	1 Zero (b)	243		

Note: (a) may have been an A6M, 22nd Air Flotilla. (b) claim against a Ki-27.

Score: 4 destroyed, 1 probable, 1 damaged and 1 shared damaged.

Sgt. Charles Victor 'Vic' Bargh, RNZAF

A farmer before the war in his native New Zealand, he joined the RNZAF in April 1940 and was posted to No.67 Squadron in 1941 after serving in various units. He claimed the destruction of 4 enemy aircraft while serving with No.67 at Rangoon, Burma while flying operations with the AVG. He continued to serve with No.67 until 1943 when he was commissioned; he was later awarded the DFC. The following known claims are from "Bloody Shambles":

23 Dec 41	1 Ki-27 probable	67	W8143	RD-B
23 Dec 41	1 Ki-21 (a)	67	W8143	RD-B
25 Dec 41	1 Type 96	67		
24 Jan 42	1 Ki-21	67		

Note: (a) In a separate account about his experiences in Burma published in a web site, he claims 2 bombers shot down on December 23, 1941.

Score: 3 destroyed, 1 probable (or, if Bargh is correct, 4 destroyed, 1 probable).

Reference: "The Other Eagles"

23 Dec 41	1 Ki-27 probable	67	W8143	RD-B
23 Dec 41	1 Ki-21	67	W8143	RD-B
25 Dec 41	1 Ki-27 probable	67		
24 Jan 42	1 bomber	67		
28 Nov 43	1 e/a fighter	67	KZ888 Hurricane IIC	

Score: 3 destroyed, 2 probable.

Sgt. Vivian Arthur Collyer, RAAF

This pilot served in No.453 RAAF Squadron and suffered an accident on December 9, 1941 from which he escaped unhurt. He had a reported score of 4 enemy aircraft destroyed as noted previously but new sources downgrade his known score.

13 Dec 41	3 Ki-51 shared	453		
22 Dec 41	1 e/a	453		

Score: 1 destroyed and 3 shared destroyed.

Reference: "Buffaloes over Singapore"

13 Dec 41	1 Ki-51 shared	453	AN 180	GA-B
22 Dec 41	1 Ki-43 probable	453	AN 180	GA-B

Score: 1 shared destroyed, 1 probable.

F/Lt. Jack Royston 'Congo' Kinninmont, RAAF

This pilot served in No.21/453 RAAF Squadron and is generally credited with 3 aerial victories with the Buffalo. He later served in No.86, No.76, and No.77 RAAF Squadrons and then commanded No.75 RAAF Squadron. He would later serve in Korea as Squadron Leader of No.77 RAAF Squadron flying the Gloster Meteor F.8 from 1952 to 1953. He retired from the RAAF in 1970 with the rank of Wing Commander.

Reference: "Bloody Shambles"

15 Jan 42	1 bomber probable	21/453		
19 Jan 42	1 recon aircraft	21/453		
19 Jan 42	1 Ki-43	21/453		
29 Jan 42	1 bomber damaged	21/453		
31 Jan 42	1 Zero damaged	21/453		

Score: 2 destroyed, 1 probable, 2 damaged.

Reference: "Buffaloes over Singapore"

15 Jan 42	1 Ki-48	21/453	W8157	
19 Jan 42	1 Ki-51	21/453	W8157	
19 Jan 42	1 Ki-43	21/453	W8157	

Score: 3 destroyed.

Reference: "The Other Eagles"

15 Jan 42	1 Mitsubishi 97 probable (a)	21		
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19 Jan 42	1 2-seat recon aircraft (b)	21
19 Jan 42	1 Zero (c)	21
29 Jan 42	1 bomber damaged (d)	453
1 Feb 42	1 fighter damaged (e)	453
4 Feb 42	1 fighter damaged	453

Note: (a) claim against a Ki-48. (b) claim against a Ki-51. (c) actually a Ki-43. (d) claim against a G3M. (e) claim against a Ki-43.
Score: 2 destroyed, 1 probable, 3 damaged.

F/O. Noel Callan Sharp, RNZAF

This particular pilot would claim 3 victories in the Buffalo while flying with No.243 Squadron, and would later convert to the Hawker Hurricane with No.605 Squadron. He would add one more victory to bring his personal score up to 4 before being killed in action March 1, 1942 [The Commonwealth War Graves Commission quotes February 20, 1942. However, on page 293 of "Bloody Shambles: Vol. 2" there's an eye witness account of Sharp being shot down on 1 March 1942.]. He was reported missing in action, while others believe he was killed on the ground by Japanese troops after his Hurricane forced landed after strafing targets near Cheribon.

Reference: "Bloody Shambles"

12 Jan 42	1 fighter probable	243
13 Jan 42	1 Ki-43	243
18 Jan 42	1 Type 0	243
20 Jan 42	2 bombers damaged	243

Score: 2 destroyed, 1 probable, 2 damaged.

Reference: "Buffaloes over Singapore"

12 Jan 42	1 Ki-27 probable	243	W8138	NF-O
13 Jan 42	1 Ki-27	243	W8138	NF-O
18 Jan 42	1 A6M	243	W8138	NF-O
20 Jan 42	1 Ki-48	243	W8162	

Reference: "Hurricanes over Singapore"

24 Feb 42	1 Ki-43	605
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Score: 4 destroyed, 1 probable.

Reference: "The Other Eagles"

12 Jan 42	1 fighter probable	243	W8138
13 Jan 42	1 fighter (a)	243	W8138
18 Jan 42	1 Navy 0 (b)	243	W8138
20 Jan 42	1 bomber damaged	243	
24 Feb 42	1 fighter	605	

Note: (a) claim against a Ki-27. (b) A6M of 22nd Air Flotilla.

Score: 3 destroyed, 1 probable, 1 damaged.

As I mentioned before I would like to add two more Buffalo pilots who would add to their personal scores while flying other types of aircraft, and one Bristol Blenheim pilot who would add more to his personal score:

Sgt. Edmund Eric Geddes Kuhn, RNZAF

Born in Wellington, N.Z. on September 14, 1919. A former mechanic, he joined the RNZAF in February 1941. This particular pilot would become an ace while flying the Buffalo and the Hawker Hurricane Mk IIB in the early part of the war with No.488 RNZAF and No.605 Squadrons. He would later bail out of Brewster AN187 on January 13, 1942. He was captured by the Japanese after the fall of Java on March 8, 1942 and held prisoner in Singapore. He was later moved to Java and finally to Japan where he witnessed the second atomic bombing of Nagasaki. He was released from prison in September 1945; he participated in the Victory Parade that was held in London in June 1946. Due to medical problems associated with his POW time he lost his medical category to fly and left the service in April 1949. He passed away in Auckland NZ November 2000.

Reference: "Buffaloes over Singapore"

15 Jan 42	1 Ki-27	488
18 Jan 42	2 A6M	488

Reference: "Hurricanes over Singapore"

24 Feb.42	1 Ki-43	605
1 Mar 42	1 F1M	605

Score: 5 destroyed.

Reference: "The Other Eagles"

15 Jan 42	1 Type 97 fighter (a)	488	W8150
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18 Jan 42	1 Zero (b)	488
24 Feb 42	1 fighter	605
1 Mar 42	1 recce floatplane (c)	605

Note: (a) claim a Ki-27. (b) Ki-43; may have claimed a second of these during the engagement. (c) a floatplane from the seaplane carrier Sanyo Maru either a E13A or F1M.

Score: 4 (possibly 5) destroyed; reported credited with 3 damaged (no details)

F/Lt. Gordon Loversidge Bonham, RNZAF

This pilot flew the Buffalo with No.243 Squadron and was wounded in action on January 18, 1942. While engaging enemy fighters his knee was shattered by a bullet and his Buffalo was badly shot up (W8164/WP-J) but he managed to make it back to base. He was evacuated from Singapore and returned to operations in the U.K. with No.501 Squadron flying the Tempest Mk V. He was involved in the V-1 Buzz Bomb campaign and was killed in a flying accident on September 25, 1944 after shooting down 5 V-1 flying bombs (4 V-1 in one sortie).

Reference: "Aces High" Vol.2

17 Jan 42	1 bomber	243	W8164	
17 Jan 42	1 bomber damaged	243	W8164	
26 Aug 44	4 V-1 (3 by tipping)	501	EJ597	SD-D
27 Aug 44	1 V-1	501		

Score: 5 V-1 destroyed, 1 aircraft destroyed, 1 damaged.

Reference: "Buffaloes over Singapore"

12 Jan 42	1 G3M	243	W8164	WP-F
12 Jan 42	1 G3M probable	243	W8164	WP-F

Score: 1 destroyed, 1 probable.

Sgt. Mervyn John Fitzhardinge 'Ginger' Baldwin, RAF

He was a former Blenheim 1F pilot with No.27 Squadron who was successful at the start of the war, an aggressive pilot who would later request a transfer to fighters. He was reported to have shot down 3 enemy aircraft before his transfer to No.243 Squadron on January 9, 1942. He would add two more claims in the Buffalo before he was killed in action on January 22, 1942 while flying W8187/WP-R; his body was not recovered.

8 Dec 41	2 bombers	27		
? Dec 41	1 Navy 0	27		
18 Jan 42	1 A6M	243	W8187	WP-R
21 Jan 42	1 G3M	243		

Score: 5 destroyed.

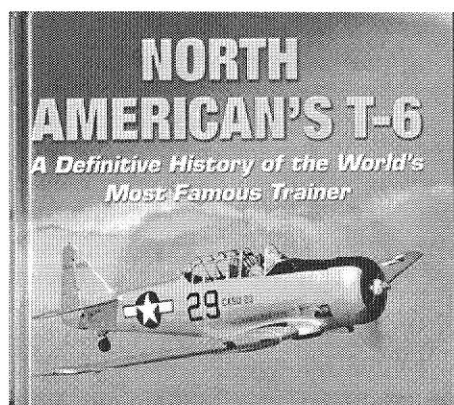
Appendix

Known aerial claims credited to the following Brewster Buffalo squadrons 1941-1942 are based on "Buffaloes over Singapore":

Unit	Confirmed Kills	Probable Kills
21 RAAF Squadron	1	0
21/453 RAAF Squadron	14	3
453 RAAF Squadron	14	11
488 RNZAF Squadron	6	6
67 Squadron	27	8+ (a)
243 Squadron	32	15
Totals	94	43+

Note: (a) the numbers for No.67 Squadron are based on known sources ("F2A Buffalo in Action") but "Bloody Shambles" Vol.1 only lists about 14 claims as destroyed as well as 8 probable and 9 enemy aircraft destroyed on the ground and 11 claimed damaged. But there are differences between different publications as to the total number of claims submitted by the Commonwealth Buffalo squadrons during the fighting, as noted below, in "Aero Journal Special No. 7 (France)":

Unit	Confirmed Kills	Probable Kills
21/453 RAAFSquadron	15	3
453 RAAF Squadron	15	12
488 RNZAF Squadron	6	6
67 Squadron	10	8
243 Squadron	28	16
Totals	74	45



North American's T-6: A Definitive History of the World's Most Famous Trainer, by Dan Hagedorn. 228 pages 230 mm by 230 mm. Hardbound. Specialty Press. (2009) ISBN 978-1-58007-124-6. Specialty Press, 39966 Grand Avenue, North Branch, MN 55056, USA. Website: <www.specialtypress.com>.

The word "definitive" is bandied about in the publishing industry too often, but with Dan Hagedorn's book on the T-6 it is well deserved. At the beginning of the book, Dan explains that there will be no "There I was at 1,000 feet hanging up-side down ..." stories in the book. Instead he concentrates on telling the story of every batch of every T-6 from the NA-16 series, through the Harvard, to the AT-6G of Korean War fame. Unlike most "type" histories, Dan is not satisfied with stopping the story with the first operator, but he follows each to their various users up to the time they are scraped. The main section of the book is arranged by North American's model number and gives the contract number, and user's designation. For example "The NA-38 (NA-16-4M), Royal Swedish Air Force Sk 14". This takes some of the sting out of the various ways writer refer to the "Texan".

The chapters are: (1) The First Modern Training Aircraft, (2) The NA-16 Series, (3) Early US Army Air Corps and Navy Variants: Not Quite the Texan Yet, (4) Gearing for War: Harvard, Wirraway and Major prewar Export Demand, (5) World War II: A major Contribution to Allied Victory, (6) Post-War Demand: It Just Doesn't Get Any Better, (7) The AT-

6 Reinvented: It *Does* Get Better, (8) Korean War, Postwar MDAP and Non-Traditional Demands, (9) Concepts, Experiments, Derivatives and Spinoffs, and (10) Worldwide Service. Each chapter is accompanied by numerous photos, period drawings & sketches, and extensive tables.

Besides the immediate T-6 family, closely-related developments such as the RAAF Wirraway, Argentine IAe 22, Thai NA-68 & NA-69, Peruvian NA-50, etc. are described and illustrated.

The enthusiast of the small air forces will find hundreds of photos of T-6 in foreign service in the main section of the book were not only are export T-6 described and illustrated, but as T-6 are passed on to secondary users, up to the time they were scrapped.

The foreign use of the T-6 is summarized in the 43-page final chapter where the countries are listed alphabetically with text, tables, and lots of photos. The countries listed are Angola, Argentina, Australia, Austria, Belgium, Biafra, Bolivia, Brazil, Burma, Cambodia, Canada, Chile, Peoples Republic of China, Nationalist China, Colombia, Congo (Kinshasa), Costa Rica, Cuba, Denmark, Dominican Republic, Ecuador, Egypt/United Arab Republic, El Salvador, France, Gabon, Germany, Great Britain, Greece, Guatemala, Guinea-Bissau, Haiti, Honduras, Hungary, India, Indonesia, Iran, Iraq, Israel, Italy, Japan, Jordan, Katanga, Laos, Lebanon, Mexico, Morocco, Mozambique, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Southern Rhodesia, Saudi Arabia, Somalia, South Africa, South Korea, South Vietnam, Soviet Union, Spain, Sweden, Switzerland, Syria, Thailand, Tunisia, Turkey, United Nations, Uruguay, Venezuela, Yemen, & Yugoslavia. As an example of the detail contained in this chapter, the text for Peru is: "The Fuerza Aerea del Peru, as might be expected, was a major AT-6 series customer. Besides being the first nation in Latin America to use a North

American product in anger (their NA-50s during the 1941 border war with Ecuador), the nation also received 35 AT-6B and AT-6D variants under Lend-Lease between April 1942 and March 1945. In July 1947, these were followed by six AT-6Cs under ARP and in May 1954 by four rather odd aircraft acquired on the surplus market, including three SNJ-2s and one BC-1A. In August 1946, these had been preceded by one of the first NAA export orders for what came to be known as T-6D Standard aircraft, with 25 being supplied. Peru also acquired at least seven T-6Gs, but these have gone completely undocumented." There is one color photo: "Displaying the unique trainer color scheme used by the FAP during the 1950s, reminiscent of the prewar USAAC scheme, FAP-502 was probably one of the ARP AT-6Cs, being flown here by third-year cadet Oscar G. Gagliardi K. over Chiclayo in 1958." The table summarizes this information: "Peru, *Fuerza Aerea del Peru*: Period of Service 1939-1967. Total Quantity 79. Versions NA-50 (7); Lend lease: AT-6B (9), AT-6D (25); ARP AT-6C (5); Postwar surplus: BC-1A (1), SNJ-2 (3), AT-6A (1), T-6D (3); T-6D Standard (25)"

The many photos of the T-6 in the markings of foreign air forces will give the modeler a wide choice of exotic markings for a T-6 collection. One particular potential diorama subject that caught my eye was the four-photos that show an RCAF Harvard being towed across the border into Canada as a way to circumvent the "Neutrality Act". One Harvard is being towed by a Ford pickup of the "Maple Leaf Canada" towing company, past a sign marked "International Border Canada-United States: Stop - Report" while two RCMP Mounties stand guard before a "Custom-Excise" shack flying a Canadian flag.

Dan Hagedorn's *North American's T-6* is a definitive work that is a must for all aviation enthusiasts independent of the area of interest. And, it's a bargain at \$21.75 from amazon.com.



Junkers F 13/W 34/K 43/Ju 52: En Argentina No 3, by Juan Carlos Cicales & Santiago Rivas. 40 landscape-format pages, 19.5 cm by 27.5 cm; eight colour profiles; and many excellent photos. ISBN 978-987-20557-7-6.

This booklet describes in detail the history of all Junkers transport and bombing aircraft in Argentina. It starts with the activities of the Junkers Mission to South America with F 13s, an A 20, a T 23 and a K 16 in the mid-1920s and then continues with the civil F 13s and the three military aircraft of the same type that the Army acquired. Two W 34s and five of the bombing and reconnaissance variant K 43 were later acquired and the Argentine Navy obtained one W 34.

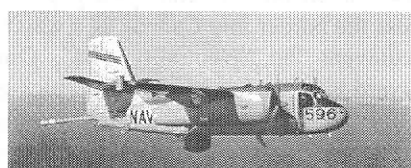
Five Ju 52/3ms entered service with Aeroposta Argentina and not less than 15 of the Junkers trimotors saw military service. Many of them carried civil registrations during the last part of their careers. There is a general history and also individual information about every aircraft.

With high quality paper and printing, detailed and reliable information this is a "must have" for anyone with the slightest interest in Junkers aircraft and in Latin American aviation history.

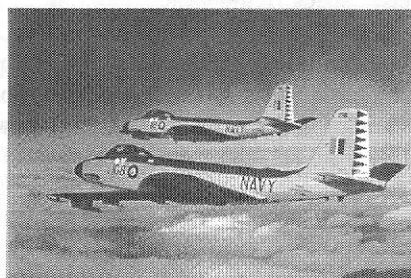
Lennart Andersson (SAFCH #68). Sweden.

[Editor: I second Lennart's endorsement of this excellent book. He is an expert on Junkers aircraft and his enthusiasm is praise indeed. I would like to add my usual detailed delineation of the contents of Jorge's book. The text is entirely in Spanish and the chapters are (1) Historia: F13 (3 pages); W34 & K43 (5 pages); and Ju52 (8 pages). (2) Tecnica (4 pages), and Historia Individuales (5 pages). There are 84 photos and 8 color profile drawings (Ju 52 'T-168', 'T-158', 'T-153', 'LV-AAB', 'LV-AAH', & 'LV-ZBE'; and F 13 '1', & 'R-ACTA'. A minor disappointment is that there are no profile drawings of the W34 or K43. However, there are many great photos that will allow the modeller to build the 1/72-scale MPM kit of the W34 into a eye-catching Argentine K43 fully armed with four dorsal machineguns.]

This booklet is available from the SAFO Sales Service for \$17.00 in the US and \$20.00 elsewhere (postage included).



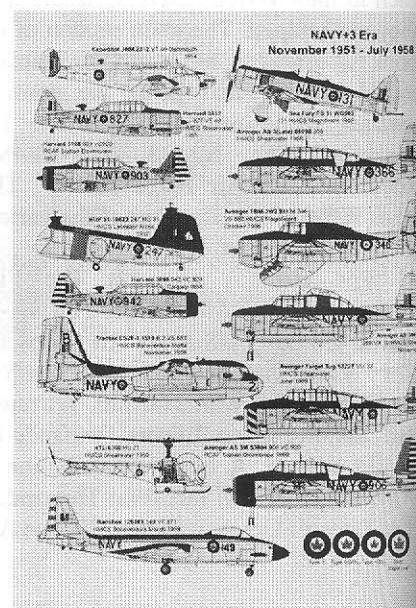
ROYAL CANADIAN NAVY
Aircraft Finish and Markings
1944 - 1968
Patrick Martin
with Leo Pattison



Royal Canadian Navy: Aircraft and Markings, by Patrick Martin.

Pat Martin's article on the Royal Canadian Navy H04S Horse elsewhere in this issue of SAFO was partially extracted from his book on RCN Aircraft and Markings. Although I have not seen this book, this article attested to the high quality of Pat's works and the selected pages reproduced here, although reprinted in black and white, illustrate the high quality of the drawings in the book.

For information on how to obtain this book, contact the author at either: martinslides.com, or Martin Slides, 20534 50th Avenue, Langley BC, Canada V3A 5P5. This book is also available from amazon.com for \$115.



[Editor: The latest decals from Linden Hill Decals should be of great interest to all modelers interested in the small air forces. They include sets on Iraqi fighters in the three popular scales and sets on Ukrainian and Kazakhstan Su-27. The review copies of these decals are available from the SAFCH Sales Service for the list price – minus 25% for SAFCH members. Otherwise, order directly from Linden Hill Decals, PO Box 543, Crugers, NY 10521, USA, or www.lindenhillimports.com].

Guy Holroyd of Linden Hill Decals writes: "My next two Post-Soviet AF releases will be Azerbaijan and Turkmenistan. I'll keep you posted on my progress."



Iraqi Fighters. 1/72-scale. Linden Hill Decals LHD72019. \$15.99

As explained on the instruction sheet: "As the title suggests, this decal set is designed to complement the exhaustively researched and profusely illustrated book 'Iraqi Fighters 1953 - 2003: Camouflage & Markings' by Tom Cooper and Brig. Gen. Ahmad Sadik (2008, Harpia Publishing, ISBN: 978-0-615-21414-6. US\$49.90 from www.lindenhillimports.com). We are indebted to both the authors and publisher for allowing us to use for this instruction booklet small copies of some of the many

profiles to be found in the book, which is an indispensable reference work for the modeler and historian alike."

The 30 aircraft covered are: Vampire FB.52, Venom FB.1, Hunter F.6 (2), Hunter F.59A, MiG-17F (3), MiG-19S, MiG-21MF, MiG-21bis (2), MiG-23MS (2), MiG-23MF (3), MiG-23BN, MiG-25PDS, MiG-25R, MiG-29, Mirage F.1EQ (2), Super Etendard, Su-7, Su-20, Su-22M (2), Su-24MK, & Su-25K.

This set includes two decal sheets, one 125 mm by 206 mm and the other 63 mm by 20 mm. These decals are of outstanding quality and include national insignia, all the various forms of fin flash, and Arabic serials. The twelve-page (5.5 inch by 11 inch) all-color instruction booklet consists of side-view of all the aircraft and descriptions of the colors. Guy explains the lack of top views: We were kindly given permission by the publisher to reproduce the profiles in the book. There are numerous rare photos in the book which show the camouflage schemes for many of the aircraft from other angles/points of view. If we had created and added these profiles to the instruction sheet, it would have doubled the retail price of the decals."

Iraqi Fighters, 1/48 scale. Linden Hill Decals LHD48019. \$15.99

This set is similar to the 1/72-scale set, but with two decal sheets, one 125 mm by 207 mm and one 125 mm by 140 mm, and a ten-page (5.5 inch by 11 inch) all-color instruction booklet.

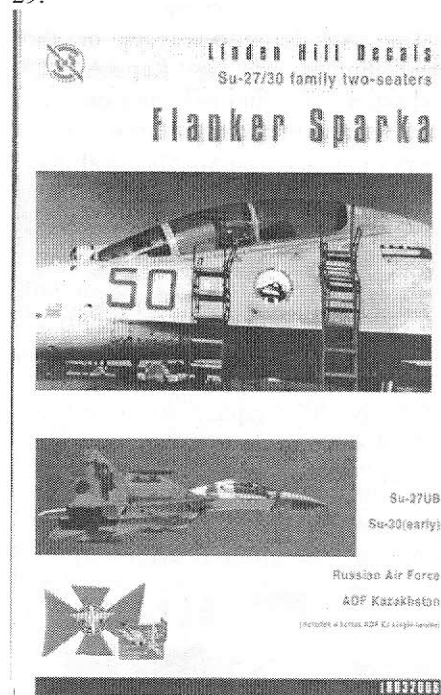
The 27 aircraft covered are: Vampire FB.52, Venom FB.1, Hunter F.6 (2), Hunter F.59A, MiG-17F (3), MiG-19S, MiG-21MF, MiG-21bis (2), MiG-23MS (2), MiG-23MF (2), MiG-23BN, MiG-25PDS, MiG-25R, MiG-29, Mirage F.1EQ (2), Super Etendard, Su-7, Su-22M (2), & Su-25K.

Iraqi Fighters, 1/32 scale. Linden Hill Decals LHD32005. \$15.99

This set is similar to the 1/72-scale set, but with two decal sheets, one 125 mm by 196 mm and one 125 mm by 55 mm, and an eight-page (5.5 inch by 11 inch) all-color instruction booklet.

The 11 aircraft covered are: Hunter F.6 (2), Hunter F.59A, MiG-17F (3), MiG-

19S, MiG-21MF, MiG-21bis (2), & MiG-29.



Flanker Sparka, 1/32 scale. Linden Hill Decals LHD32006. \$23.99

This set covers two Russian Su-27UB Flanker C and one Su-27 Flanker B and three Su-27UB Flanker C of Kazakhstan. There are four decal sheets, two 120 mm by 195 mm, one 84 mm by 185 mm, and one 92 mm by 96 mm. The sixteen-page (5.5 inch by 11 inch) all-color instruction booklet includes color profile and top views.

This set also includes a summary of the Kazakhstan Air Defense Force. It is reproduced here in full with the permission of Linden Hill Decals. "After the break-up of the USSR in 1991 and Kazakhstan's declaration of independence, the new country inherited a large amount of military hardware from the old Soviet Turkestan Military District. Unfortunately for Kazakhstan, the military aviation component of the heirloom comprised almost exclusively strike aircraft and heavy bombers, leaving the country without a credible air defence deterrent. Given the Russian Federation's desire for both continued access to the Baikonur Cosmodrome and the repatriation of the Tu-95MS-equipped 1223rd Heavy Bomber Regiment, an agreement was concluded in 1995 between the two countries. The

Russian part of the deal included the delivery of over seventy combat aircraft to Kazakhstan. By the time this agreement was concluded in 2001, Kazakhstan had allegedly received fourteen Su-27s.

The 'Air Defense Forces of the Armed Forces of the Republic of Kazakhstan' came into existence on June 1st, 1998 as part of a major reform of the country's military. The Su-27s are all part of the 604th Air Base at Taldykorgan, close to the country's largest city and former capital, Almaty. In the years since the Su-27s entered service, the aircraft have sported a number of variations of national insignia before the ADF agreed on a final design. Although they have been rarely photographed, we have tried to reflect some of these variations in this decal set."



Ukrainian Flankers: 1/32 scale. Post-Soviet Air Force Special. Linden Hill Decals LHD32007. \$23.99.

This issue in the Post-Soviet Air Force Special series provides decals for seven Ukrainian Flankers: four Su-27 Flanker B and three Su-27UB Flanker C.

There are three sheets of decals, two 125 mm by 205 mm and one 82 mm by 145 mm. The twelve-page (5.5 inch by 11 inch) all-color instruction booklet provides color side and top view drawings for all seven aircraft.

This set also includes a summary of the Ukrainian air force. It is reproduced

here in full with the permission of Linden Hill Deals. "Ukraine's air force was officially summoned into being in Vinnitsa on March 17, 1992, on the basis of a directive issued by the Chief of General Staff of the Armed Forces of Ukraine. Its personnel and inventory were transferred from the former Soviet 24th Air Army, which was stationed on the territory of the newly independent Ukraine. As such, it inherited an air force with a Soviet-style command structure and more aircraft than all the then European NATO member countries combined.

After many years of painful restructuring, the Ukrainian Air Force (UkrAF) now consists of an eighth the number of aircraft and one third of the personnel it inherited in 1992. Its combat aircraft inventory now consists exclusively of so-called 'fourth generation' Soviet hardware: The Su-24, Su-25, MiG-29 and last but certainly not least, the Su-27. We will concentrate on other aircraft in the UkrAF in later releases in our 'Post-Soviet Air Forces' decals. This set however is dedicated to the most modern and enigmatic fighter aircraft in the UkrAF, the Su-27 Flanker.

Following the most recent reorganization of the Air Force of the Armed Forces of Ukraine, Su-27s form a major part of the UkrAF's fighter Aviation component. In an effort to shake off the last vestiges of the old Soviet command structure, since 2005 Fighter Regiments have been converted into more NATO-friendly Fighter Brigades. Frontline Flankers have been consolidated into two Fighter Brigades, the largest being the 831st based at Mirhorod ('City of Peace') and the 9th based at Zhitomir Ozernye.

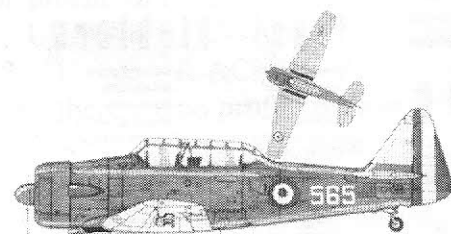
Overhaul and maintenance of Ukraine's Flankers has now been centralized at the Zaporizhia State Aircraft Repair Plant, whose emblem adorns many of the fleet. This set aims to provide the modeler and aviation enthusiast with an overview of the reformed UkrAF's Su-27 Brigades from the early post-independence era, when the old Soviet red stars were simply overpainted with the Ukrainian trident symbol, to the latest splinter schemes, adopted after overhaul.

[Editor: The most recent decals released by **All Scale Decals** cover twelve interesting Latin American subjects. Each decal set includes decals, color drawings

and/or photos (as shown below in black and white) and a line drawing showing the placement of the decals. In the following reviews, the descriptions of the items on the decal set are not necessarily complete; many of the smaller items are not described. Also, the colors attributed below are rough estimates from the color drawings; the modeler will need to consult other references to determine a more accurate estimate of the colors. As with previous All Scale Decals, the more complicated items are printed with the background color of the aircraft, thereby eliminating the need for tedious cutting but leaving it up to the modeler to match the paint.

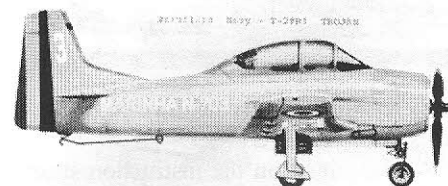
All Scale Decals can be contacted at e-mail: allscalemodels@yahoo.com.

These decals are available from the SAFCH Sales Service for the price indicated plus postage (\$0.50 in US or \$1.00 non-USA for each set).]



Peruvian Air Force AT-6 Texan, 1/72-scale. All Scale Decals.

This is arguably the most colorful Texan – sky blue fuselage with yellow wings and tail feathers. The 75 mm by 48 mm decal sheet includes 4 roundels, rudder stripes, & codes '565'. The color drawing shows a side and atop view. \$3.00. plus postage.



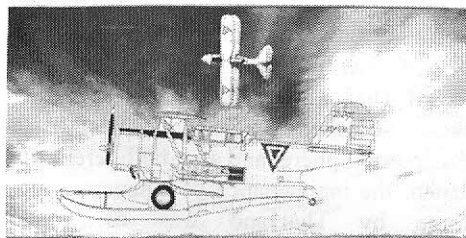
Brazilian Navy T-28R1 Trojan, 1/72 scale. All Scale Decals.

The 82mm by 90mm decal sheet includes 4 roundels, rudder stripes, 'Marinha N-703', and wing & tail codes. Aircraft is yellow overall. The color drawings shows a side and a bottom view. \$4.00 plus postage.



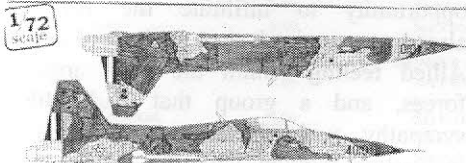
Venezuela DH Vampire, 1/72 scale. All Scale Decals.

The 110 mm by 30 mm decal sheet includes 6 national insignia, rudder stripes, lightning flash, and codes. Aircraft is overall silver. The color drawing shows a side view. \$3.00 plus postage.



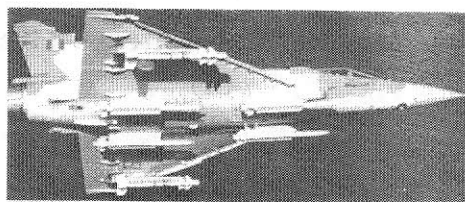
Mexican Grumman Duck, 1/72 scale. All Scale Decals.

The 110 mm by 45 mm decal sheet includes 6 national insignia, serials, and propeller warning line. Aircraft is overall silver. The color drawings show a side and a top view. \$3.00 plus postage.



Mexican Air Force Northrop F-5E Tiger II, 1/72 scale. All Scale Decals.

The 110 mm by 62 mm decal sheet includes 6 national insignia, rudder stripes, codes, and numerous small items. This is the only set that has the individual items numbered to identify their locations. Aircraft wraparound dark green/green/tan camouflage. All four views are shown in the color drawing. \$4.00 plus postage.



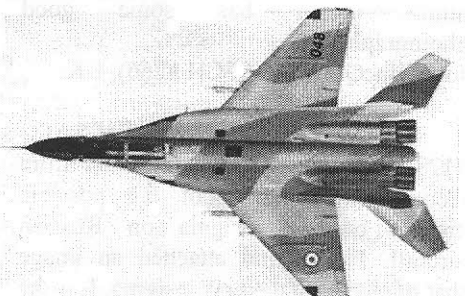
Peruvian Mirage 2000 (grey camouflage), 1/72 scale. All Scale Decals.

The 38 mm by 17 mm decal sheet includes 2 roundels, fin flashes, and serials. Aircraft is camouflaged two shades of blue-grey over white. Color photos include side and bottom views. \$2.00 plus postage.



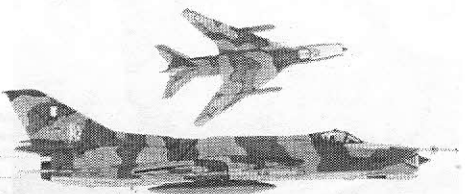
Peruvian Mirage 2000, (brown/tan camouflage), 1/72 scale. All Scale Decals.

The 38 mm by 17 mm decal sheet includes 2 roundels, fin flashes, and serials. Aircraft is camouflaged in two shades of brown (may be wraparound). Color drawings show a side and a top view. \$2.00 plus postage.



Peruvian MiG-29 Fulcrum, 1/72 scale. All Scale Decals.

The 40 mm by 25 mm decal sheet includes 2 roundels, fin flashes, and unit insignia. Aircraft is overall grey with green camouflage on top surfaces. A color photo shows a side view and a color drawing shows the top view. \$2.00 plus postage.



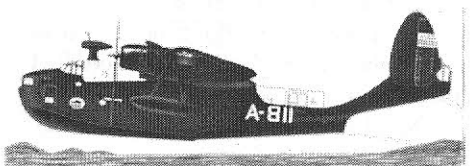
Peruvian Sukhoi Su-22 Fitter F (brown/tan camouflage), 1/72 scale (for Leoman resin kit). All Scale Decals.

The 76 mm by 30 mm decal sheet includes 2 roundels, fin flashes, codes, unit insignia, and intake warnings. Aircraft is brown/tan camouflage with sky blue undersurfaces. The color drawings show a side and a top view. \$2.00 plus postage.



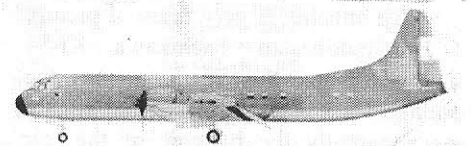
Uruguayan Grumman F6F-5 Hellcat, 1/72 scale. All Scale Decals.

The 130 mm by 70 mm decal sheet includes 4 roundels, 4 fin flashes, codes for two Hellcats 'A-451' & 'A-453', anchors, two different unit insignia, and 'Aviacion Naval'. Aircraft are sea blue over white. This decal sheet is the 'pick of the litter'. The color drawing shows a side view of A-401. \$4.00 plus postage.



Uruguayan Martin PBM-5 Mariner, 1/118 scale (for Revell kit). All Scale Decals.

The 107 mm by 67 mm decal sheet includes 4 roundels, fin flashes, anchors, codes 'A-881', and propeller warning stripes. The aircraft is overall sea blue with the fuselage upper surface white. A color drawing shows a side view. \$3.00 plus postage.



Argentine Navy Lockheed L-188 Electra, 1/72 scale (for J/L vacuform kit). All Scale Decals.

The 165 mm by 94 mm decal sheet includes rudder and elevator stripes, anchors, codes '6-P-103', 'Armada Argentina', 'Ushuaia', and 'Antartida Argentina'. From the color drawing, the aircraft appears to be medium grey above and light grey below. The color drawings show a side and a top view. \$4.00 plus postage.

"A few weeks back, I went to the yearly Fair at St. Nicolas Russian Orthodox Church in Stratford, Connecticut. This church was the religious center for Igor Sikorsky and his Russian engineers. I went hoping to find the names of the Imperial Russian Admirals who worked with Sikorsky Aircraft about 1950.

"There, I met an 'old timer' who told me a tale about Me 262 with Imperial Russian roundels being flown by Russian airmen on the German side circa 1944-45. I lost this gentleman in the crowd before I could press him for more information.

"This is the second time at this event that the story of the Me 262 in Russian markings fighting on the Eastern Front has been related to me. The man seemed very reliable as his information on the Russian Admirals (two of them) at Sikorsky Aircraft was very exact.

P.S. I am still working on air effort during the Carpatho-Russian conflict with Hungary."

Douglas Breveglieri (SAFO #612), USA.

"On pp 33 of SAFO #129, in the review for the Colombian "F-86F" decals for FAC-2021, someone didn't do their homework on this one. FAC-2021 was one of the Canadair CL-13B Sabre Mk.6s (closer to the F-86E) and certainly not an F-86F or F-56F. (Editor: My bad!)"

Dan Hagedorn (SAFCH #394), USA.

"I've attached a very unusual picture of an Indonesian Tachikawa Ki-54 Hickory. Note the marking on the fuselage. The black-bordered red square was apparently the insignia of the 'air force' of the pro-Japanese Indonesian faction."

Greg Kozak (SAFCH #1599), USA.



[Editor: I e-mailed Greg's photo to John Cochrane, author of the book *Military Aircraft Insignia of the World*, www.aircraft-insignia.com (see web review in SAFO #128) asking for his comments. His reply follows.]

"Many thanks for photo of the Indonesian Hickory. I did know about this one but this is a better photo than I have!

"SAFO #129 has a note about anti-Jap Thai insignia. I've also heard of pro-Jap Burma and India markings as well as anti-Jap Philippines. It's all nearly as bad as Chinese warlords, South Sudan, Silesia, etc. "It never ends but it's great fun."

John Cochrane (SAFCH #905), UK.

"On page 34 of SAFO #129, there's a request for information about the Thai AF in WW2. The best source is Ted Young's *Aerial Nationalism* (A history of the Siamese/Thai AF), which covers the subject fully. There's also the Thai AF Museum website at <http://www.rtaf.mi.th/museum/English.html> which has some good photographs."

John MacGregor (SAFCH #766), UK.

"I haven't read every word of SAFO #129 yet, but I did read the letter from George Mellinger about the possible change of the insignia on Russian aircraft. Please find attached an image that might show the new insignia. It is the only image I've seen so far."

Frans Scheve (SAFCH #890), Netherlands.



[Editor: In answer to Denys Voaden's request in SAFO #129 for information on the Thai Air Force during WWII, Ray Pelaschier (SAFCH #992) sent the follow from the book by R.M. Bueschel, *Nakajima Ki-43 Hayabusa in Japanese Air Force, RTAF, CAF, IPSF Service* Schiffer 1995 (ex Osprey 1970). pp. 15-16.]

"Prime foreign user of the Hayabusa, and the only air force to which the aircraft was originally exported, was the Royal Thai Air Force. As a member of the so-called Greater East-Asia Prosperity Sphere, and a co-belligerent of Japan, the maintenance of a separate air force by Thailand was of great propaganda value while a somewhat limited tactical asset to Japan. In the spring of 1944 a company of former JAAF Ki-43-IIb Hayabusa fighters was transferred to the Royal Thai Air Force to replace its Curtiss Hawk-III and 75N fighters. This also gave the Japanese the opportunity to infiltrate the RTAF, already recognized as a hotbed of pro-Allied feeling within the Thai armed forces, and a group that had little sympathy with Japan's cause. JAAF instructors worked with the Thais, but they were soon dismissed to leave the Thai pilots on their own. The RTAF flew a squadron of the Hayabusa fighters in southern China under JAAF command, while others were retained for the defence of Bangkok where they rarely took to the air.

"When the war ended the Thais rushed their aircraft through a normalization process, removing all evidence of wartime paint and insignia. The wartime Thai insignia made use of the Japanese Hinomaru on the upper wing surfaces, something the Thais would prefer not to remember in the post-war years, and the traditional Thai white elephant on a red panel on the undersides of the wing and the sides of the vertical tail. The historic pre-war roundel insignia was applied to the surviving Hayabusa fighters by the first week in September 1945, the aircraft themselves now a natural dural. They remained in service until the late 1945 when they were replaced...."

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ABT

French Lyander (1/48) 4.00

France 33^e Escadre (1/72) 5.00

AERO Poland (1/72)

F6F Hellcat 3.00

F4U Corsair 3.00

TBF Avenger 3.00

P-38 Lightning 3.00

P-61 Black Widow 3.00

AEROPHILE SERVICE

Romania Bf 109 (1/48) 5.00

P-38 "Yippee" (1/48) 5.00

ALLIANCE

32-005 Hornet	2.25	72-001 Tornado	5.00	Phantom (RAF)	3.00	BF-109E	3.00
48-020 F-111G	6.25	72-002 Su-25K Frogfoot	5.00	F4U-1 Corsair	3.00	F6F-3 Hellcat	3.00
48-021 Hornet (Magpie update)	1.75	72-003 Jaguar	5.00	Messerschmidt BF-110	3.00	P-51D Mustang	3.00
48-022 F-111C & G	4.00	72-005 MiG-29	5.00	Northrop Black Widow	3.00	TECHMOD Poland (1/48)	
48-023 F-111G	4.00	72-006 Mi-8/17	5.00	Republic P-47D (USAAF)	3.00	Polish Fokker V.VII	10.00
72-006 Hornet	5.25	72-008 Mi-24	5.00	Supermarine Spitfire VIII	3.00	Domier Do-217K	5.00
72-017 Spitfire	5.25	72-009 F-15E	5.00	Lancaster	6.00	TOM Modellbau	
72-022 C-130A/E (4 sheets)	10.75	72-010 A-10	5.00	B-17F	6.00	East German Insignia (1/32)	16.00
72-029 Hornet (Magpie update)	1.74	72-011 MiG-21MF/SMT	5.00	LIFT HERE		East German Insignia (1/48)	8.00
AUSTRALIAN MILITARY MODELS		72-012 Chinook	5.00	E-2H MiGs in Yugoslav Sky	11.00	TRAVERS Russia (1/72)	
Lanc. Dambuster L (w/ resin)	6.00	72-013 Su-24 Fencer	5.00	LINDEN HILL DECALS		72-019 MiG-23/27	8.00
Lanc. Dambuster N (w/ resin)	6.00	72-014 AH-1 Sea Cobra	5.00	72002 Russian MiG-23	8.00	72-055 Mirage III	8.00
AZTLAN Mexico		72-015 MiG-23 Flogger	5.00	72005 Flankers on Parade	17.00	72-058 Korean War	8.00
48/2 FAM P-47D	6.00	72-016 Mirage 2000	5.00	72009 L-39s of Central Asia	20.00	Bell UH-1 (1/48)	5.00
72/2 FAM P-47D (new)	5.00	72-017 MiG-27/23BN	5.00	72011 Su-27 Stenciling	8.00	Ju 88A	2.00
72/3 FAM P-47D (Grey)	2.50	72-019 L-39 Albatros	5.00	72013 Mi-24 Stenciling	8.00	Yak-38	2.00
72/9 FAM Kingfisher (wheels)	3.00	72-020 AH-64 Apache	5.00	72014 Lipetsk Top Guns	25.00	Rc-2001	2.00
72/13 FAM AT-6	3.00	72-021 F-16C	5.00	** 72019 Iraqi Fighters	16.00	A5M4	2.00
72/15 FAM AT-6	4.00	72-022 MiG-15	5.00	** 48019 Iraqi Fighters	16.00	A6M2	2.00
BADGER BITS		72-023 F/A-18	5.00	** 32005 Iraqi Fighters	16.00	Fw-190D	2.00
RAAF WW2 Roundels (1/72)	7.50	72-024 Su-27 Flanker B	5.00	** 32006 Flanker Sparka	24.00	Mc-262	2.00
BLUE RIDER (1/72)		72-025 Israeli F-4	5.00	** 32007 Ukraine Flankers	24.00	P-61 Black Widow	5.00
225 Colorful Camels	10.00	72-026 Mi4 Hound	5.00	MAI (1/72)		Bristol Blenheim	5.00
226 RFC & RAF Jennies	6.00	72-027 F-18 Hornet	5.00	DCL-3 Po-2/Yak-6	5.00	Swordfish	5.00
227 Captive WWI Allied Fighters	6.00	72-028 MiG-25 Foxbat	5.00	DCL-4 Su-27/Mi-4	5.00	Avenger	5.00
234 Albatros D.III (Oef)	6.00	72-029 A-6E Intruder	5.00	MAX DECALS		Curtiss P-40	5.00
300 Bc-2e	2.00	72-030 MiG-17 Fresco A	5.00	32-001 Exotic Lysanders (Pl.1)	9.00	Su-22M-4	5.00
401 Polish AF #2	4.00	72-031 Su-17M4 Fitter	5.00	32-002 Exotic Lysanders (Pl.2)	9.00	VENTURA (1/32)	
407 Civil LVG C.VI	4.00	72-033 Su-17M4R/-22M4	5.00	48-001 Irish AC 1922-1997	8.00	V3255 Australian P-51D	5.00
810 Latvian Army Reserve	4.00	72-034 F/A-18 Hornet Stencils	5.00	48-002/72-003 Wing Stripes	6.00	V3265 Israeli Mosquito	5.00
CUTTING EDGE		72-035 MiG-17F/Lim-5 Fresco C	5.00	48-003 Exotic Lysanders	9.00	V3263 Australian Beaufighter	5.00
31-017 Korean MiG-15bis	9.00	72-037 MiG-21bis	5.00	48-007 Polar DHC-3 Otter	9.00	V4821 Spitfires: RAAF & RNZ	6.25
32-018 Korean MiG-15bis	9.00	72-040 MiG-19PM	5.00	48-009 Polar Beaver, Part 2	9.00		
48-104 Fw 190A	8.00	72-043 IL-28/RT/U	5.00	48-010 Lockheed Hudson	9.00		
48-111 F8F Bearcat	8.00	72-044 MiG-28A/B/G	5.00	MICROSCALE DECALS (1/48)			
48-117 AVG Tomahawk	8.00	72-045 MiG-29 UB	5.00	48-257 F/R/84F (China & Germany)	8.00		
72-037 Late War Codes (Br)	6.00	72-047 F/R/84G	5.00	MODEL-AIRE (1/72)			
72-038 Fw 190 Insignia	6.00	72-049 F-84G	5.00	MiG-29 & Mi-8	5.00		
DECAL ART (Italy)		72-050 Su-27 (See SAFO #119)	5.00	MiG-21	5.00		
Italian Tornados (1/48)	10.00	72-051 F-14A (See SAFO #119)	5.00	MODEL ART			
72-038 Fw 190 Insignia	6.00	HIT KIT Poland (1/72)		48-001 Mirage 2000C	6.00		
DECAL ART (Italy)		MI-G-3, Su-2, etc. (1/48)	8.00	MODEL-A (1/72)			
Italian Tornados (1/48)	10.00	HOBIC (1/48)		MiG-15	5.00		
DELTA AVIATION (1/72)		Kawasaki Ki-45 Nick	10.00	MORGAN (Singapore)			
72 005 Croatian AF	4.00	ILIAD DESIGN (1/48)		1/48 Singapore A-4S	5.00		
US Air Force Europe 1950	6.00	Normandie-Nieman Yaks	9.00	MPD Czech (1/72)			
DELTA HOBBY (1/72)		INS-SCALE Finland (1/72)		Mi-24D CZ Mouth	3.00		
012 Dewoitine D.520	5.00	AC027 Bf 109 G-6/G-6	6.00	Mi-24D CZ Shark	3.00		
DUTCH DECALS		AC029 Bf 109 G-2/G-2	6.00	Su-25K Frogfoot CZ Frog	3.00		
48-021 Bristol Fighter Ni-21.23	6.00	KUJVALAINEN DECALS		PLASTIMODELLISMO Greece (1/72)			
EDUARD		Finnish post-war roundels	8.00	Greek jets (1/72)	6.00		
72 002 Russian WWII Aces	8.00	LATVIA (1/72)		Greek jets (1/48)	6.00		
ESCI (1/72)		Bell UH-1B (1/48)	2.00	Greek roundels	6.00		
#81 NS F-86 Saber	3.00	Mi-4	2.00	#9 Swastikas	5.00		
#85 Dassault Mirage III	3.00	Jaguar (Desert Storm)	1.50	#10 Swastikas	5.00		
#98 McDonnell F-101 Voodoo	3.00	Bristol Beaufighter	2.00	US Insignia	5.00		
#101 F-84 Thunderstreak	3.00	Westland Lynx	2.00	US Insignia (LowVis)	5.00		
FLYING COLORS AERODECALS (1/48)		Brewster Buffalo	2.00	PM TURKEY			
48-102 Swed Mustang & Spitfire	7.00	Grunman EA-6A	2.00	Turkish Jets (1/48)	2.50		
P-51D or Spitfire XIX	4.00	Martin B-26B	2.00	PROPAGTEAM (1/48)			
FCM (Brazil)		Buccaneer (Desert Storm)	2.00	48001 Slovak Insignia	4.00		
48-07A Bell 206CAP 4		Sikorsky HH-3E	2.00	48104 Tornado (RAF, Saudi Arabia, Germany, Italy)	10.00		
Paulistinha, Sea King, SH-34J	8.00	Sikorsky HH-3F (USCG)	2.00	PROPAGTEAM (1/72)			
* 48-15 South American Mirage IIIE		F-4K RAF	2.00	05-72-002 New Slovak Insignia	4.00		
S-70, UH-1, F-5	8.00	F-16 (Israeli)	2.00	REVELL BRAZIL (1/32)			
48-21 F-5A/E Tiger II	10.00	Harrier GR-1	2.00	Mirage 5 (France & Israel)	4.00		
48-33 Brazil F-5B/E/F	10.00	Hurricane 2c	2.00	ROO DECAL			
72-33 Mirage Part 1 Brazil, Chile, Lebanon	12.00	BF-109G (Croatian)	2.00	RAAF Mirage IIIO (1/48)	9.00		
72-34 Mirage Part 3 Brazil, Venezuela, Egypt	12.00	Ju-87	2.00	SAAD (1/48 & 1/72)			
* 72-35 Mirage: Part 3 Brazil, Chile, Peru, Argentina	12.00	Grunman Wildcat	2.00	#2 (9 by 8 in) no instructions	5.00		
HAD Hungary		MiG-21	2.00	#4 (8.5 by 11) no instructions	5.00		
48-003 Bf 109	4.00	MiG-29	2.00	SWEET DECALS (1/144)			
48-005 MiG-23 MF	4.00	Yak-6	2.00	Sea King (JMSDF)	10.00		
48-008 Bf 109G	5.00	FW-190A	2.00	Sea King (USN/USMC/NASA)	10.00		
48- MiG-23	6.00	Bf-109A	2.00	SKYLANCER			
48-012 P-51D	6.00	Northrop F-5E	2.00	CW-4801 Avro CF-100 Mk.5	9.00		
48-013 Bf 110	6.00	Bf-110	2.00	CW-7204 Avro CF-100 Mk.5	7.00		
72-007 Su-22	4.00	Bristol Beaufighter	2.00	SKYMODEL (Italy)			
72- MiG-23	4.00	Fokker D-21 (Dutch & Finnish)	2.00	48-013 Fiat G 55	8.00		
HI-DECAL Poland		Junkers Ju-88 (Finnish)	3.00	48-036 Fiat CR 42	8.00		
48-001 MiG-21	8.00	Republic P-47D (USSR)	3.00	SMALL WORLD ACCESSORIES (Italy)			
48-002 F/A-18 Hornet	8.00	Mirage III (Spain & Israel)	3.00	48001 (T-33, MB.320, F-104, Tornado)	13.00		
48-004 F-18A/C Hornet	8.00	F-4 (USMC)	3.00	SUPERSCALE			
48-005 MiG-17F/Lim-5	8.00	Corsair II	3.00	48-435 A-37B Dragonflly	4.00		
48-006 F/A-18 Stencils	8.00	AW Whitley	3.00	TASMAN			
48-007 Israeli F-4	8.00	BAC Lightning	3.00	48-05 RAAF A-Type Roundels			
48-010 Su-17M4R/-22M4 Fitter	8.00	BAC Buccaneer	3.00	Smaller Sizes	6.00		
48-011 Su-17M4 Fitter K	8.00	DH Mosquito	3.00	48-08 RAAF B-Type Roundels			
48-012 Su-7BKL/BMK Fitter A	8.00	Vickers Wellington	3.00	Larger Sizes	6.00		
48-013 MiG-29A/B/G	8.00	Bristol Blenheim	3.00	48-11 RAAF B-Type Roundels			
48-014 F-86D/L Saber Dog	8.00	Hawker Hunter	3.00	Smaller Sizes	6.00		
48-015 MiG-29 UB	8.00	Hawker Tempest	3.00	TECHMOD Poland (1/72)			
48-017 F/R/84G	8.00	Hawker Typhoon	3.00	F4U Corsair	8.00		
48-019 F-84G	8.00	Fairey Firefly	3.00	F-18A	4.00		
48-020 MiG-19 PM Farmer E	8.00	Brewster Buffalo	3.00	EE Lightning	3.00		
48-021 F-14A (See SAFO #119)	8.00	Douglas A-20	3.00	Tempest	3.00		
48-022 Su-27 (See SAFO #119)	8.00	Douglas Skyhawk	3.00	Typhoon	3.00		
		Grunman Avenger	3.00	Westland Lynx	3.00		
		Grunman Bearcat	3.00				
		Grunman Hellcat	3.00				
		Lockheed P-38J	3.00				



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